FEB/FY06

RED RIVER ARMY DEPOT

Texas

Army Defense Environmental Restoration Program
Installation Action Plan

Final 2 Oct 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Red River Army Depot (RRAD), executing agencies, regulatory agencies, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 14-15 February 2006:

Company/Installation/Branch
AFO/RRAD
BRAC-D
Engineering and Environment, Inc for USAEC
RRAD
TCEQ
USAEC
USCOE
USEPA, Region VI

Acronyms & Abbreviations

ACSIM	Assistant Chief of Staff for Installation Management
AEDB-R	Army Environmental Database-Restoration (formerly DSERTS)
AMC	Army Materiel Command
APAR	Affected Property Assessment Report
AR	Army Regulation
ARAR	Applicable or Relevant and Appropriate Requirements
AST	Above Ground Storage Tank
BCP	BRAC Cleanup Plan
BCT	Base Cleanup Team
BEC	BRAC Environmental Coordinator
bgs	Below Ground Surface
Bldg	Building
BRAC	Base Realignment and Closure
CA	Corrective Action
CBD	Computer-based depository
CEL	Chromate Equalization Lagoon
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CITE	Center of Industrial Technical Excellence
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operation)
CMS	Corrective Measures Study
COL	Colonel
CONUS	Continental United States
CTC	Cost to Complete
CTT	Closed, Transferred, or Transferring
CS	Confirmatory Sampling
cy	cubic yards
DA	Department of the Army
DCE	Dichloroethylene
DD	Decision Document
DERA	Defense Environmental Restoration Account
DES	Design
DLA	Defense Logistics Agency
DNAPL	Dense Non-Aqueous Phase Liquids
DNT	Dinitrotoluene
DOD	Department of Defense
DP	Demonstration Project
DPW	Department of Public Works
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSERTS	Defense Site Environmental Restoration Tracking System (now AEDB-R)
DSMOA	Defense and State Memorandum of Agreement
EE / CA	Engineering Economic Cost Analysis

Acronyms & Abbreviations

ER,A	Environmental Restoration, Army (formerly DERA)
FFS	Focused Feasibility Study
FRA	Final Remedial Action
FS	Feasibility Study
ft	feet
FY	Fiscal Year (October 1-September 30)
GMW	Groundwater Monitoring Well
gpm	Gallons Per Minute
GW	Groundwater
HE	High Explosives
HRR	Historical Records Review
HSWA	Hazardous and Solid Waste Amendments
IA	Installation Assessment
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IWTP	Industrial Waste Treatment Plant
LBP	Local Business Processes
LCMC	Life Cycle Management Command
LIFOC	Lease in furtherance of conveyance
LNAPL	Light Non-Aqueous Phase Liquids
LSAAP	Lone Star Army Ammunition Plant
LTM	Long-term Maintenance
LUC	Land Use Controls
MACOM	Major Command
MTBE	Methyl Tertiary-Butyl Ether
MCL	Maximum Contaminant Level
mg/kg	milligrams/kilograms
MLRS	Multiple Launch Rocket System
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MOA	Memorandum of Agreement
NA	Not Applicable
NCP	National Contingency Plan
NE	Not Evaluated
NEPA	National Environmental Protection Act
NFA	No Further Action
NPL	National Priority List
NFRAP	No Further Remedial Action Planned
Ni/Cad	Nickel/Cadmium
OBOD	Open Burning/Open Detonation
OE	Ordnance/Explosive
OTC	Ordnance Training Center
PA/SI	Preliminary Assessment/Site Inspection

Acronyms & Abbreviations

PBC	Performance-Based Contract
PCB	Polychlorinated Biphenyl
PCL	Protective Concentration Level
PCLE	Protective Concentration Level Exceedance
PMZ	Plume Management Zone
POL	Petroleum, Oil & Lubricants
POM	Program Objective Memorandum
ppm	Parts Per Million
RA	Remedial Action
RACR	Response Action Completion Report
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RA/FS	Risk Assessment / Feasibility Study
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REC	Record of Environmental Consideration
REM	Removal
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy in Place
RIR	Release Investigation Report
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RRAD	Red River Army Depot
RRLRA	Red River Local Redevelopment Authority
RRRA	Red River Redevelopment Authority
RRSE	Relative Risk Site Evaluation
SARA	Superfund Amendments and Reauthorization Act
SCAPS	Site Characterization and Penetrometer System
SEE	Small Emplacement Excavator
SI	Site Inspection
SIN	Self Implementation Notice
SOP	Standard Operating Procedures
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TACOM	US Army Tank-automotive and Armaments Command
TCA	Trichloroethane
TCE	Trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TCLP	Toxic Characteristic Leaching Procedure
TD	Transferred
TI	Technical Impracticability
TNT	Trinitrotoluene

Acronyms & Abbreviations

TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Panel
TRRP	Texas Risk Reduction Program
TX	Texas
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Center
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VC	Volatile Compound
VOC	Volatile Organic Compounds
WD	Woodyard
WES	Waterways Experimental Station
WIA	Western Industrial Area
WWT	Waste Water Treatment

Installation Information

Installation Locale: Red River Army Depot (RRAD) is located on 18,316 acres of land in Bowie, County, Texas. RRAD is approximately 18 miles west of Texarkana, Texas/Arkansas (metro population 129,749). RRAD is adjacent to Hooks, Texas (population 2,684) and New Boston, Texas (population 5,057). Lone Star Army Ammunition Plant is adjacent to RRAD to the east. In July 1995, the Base Realignment and Closure (BRAC) Commission recommended realigning RRAD by moving all maintenance missions associated with the M113 Tactical Vehicle Series to other depot maintenance activities. The installation retained its Bradley Fighting Vehicle Series maintenance missions, ammunition storage and surveillance mission, roadwheel and track remanufacturing missions, Patriot and Hawk missile recertification mission, intern training center, civilian training, and rubber production facilities. 765 acres were originally designated for transfer to the Red River Redevelopment Authority (RRRA). The water treatment plant, industrial waste treatment plant, sewer treatment plant and high voltage electrical distribution system were privatized through BRAC in 2001 adding an additional 32 acres. Of the total 797 acres, approximately 104 acres remain to be transferred.

Installation Mission: The mission of Red River Army Depot is to 1) Conduct (Light) Ground Combat and Tactical Systems Sustainment Maintenance Operations, Air Defense Systems Certification, and Related Support Services Worldwide for the US Armed Forces and Allied/Friendly Nations 2) Train and Employ the Army's Emerging Sustainment Maintenance Companies; and 3) Provide Essential Base Support Services to Red River Industrial Complex Missions, and 4) Be an Active and Viable Partner in Bowie County, The Greater Texarkana Community, and The Four States Area at Large. RRAD is currently the Center of Industrial Technical Excellence (CITE) for tactical wheeled vehicles, the Small Emplacement Excavator (SEE), Bradley Fighting Vehicle series, Multiple Launch Rocket System (MLRS) chassis, Patriot Missile re-certifications, and for rubber products.

Lead Organization:
Army Materiel Command

Lead Executing Agencies:
US Army Corps of Engineers, Southwestern Division, Fort Worth District
US Army Environmental Center (USAEC) - MMRP

Regulatory Participation:
Federal: US Environmental Protection Agency, Region VI
State: Texas Commission on Environmental Quality (TCEQ)

National Priorities List (NPL) Status:
Not on NPL

Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status: RAB was established in 1996. It became inactive in 2001. RAB will be reactivated if public interest increases.

Installation Program Summaries

Installation Restoration Program (IRP)

Primary Contaminants of Concern: VOCs, SVOCs, Metals, Hydrocarbons, DNT, Solvents, TPH, TCE, Lead
Affected Media of Concern: Soil, Groundwater, Sediment, Surface Water
Estimated date for RIP/RC: 2007/2015
Funding to date (up to FY05): $44,766,000 (BRAC + Active)
Current year funding (FY06): $383,000
Cost-to-Complete (FY07+): $5,979,000

Military Munitions Response Program (MMRP)

Primary Contaminants of Concern: OE, Metals, Perchlorate, Explosives
Affected Media of Concern: Soil, Groundwater
Estimated date for RC: 2014
Funding to date (up to FY05): $370,000
Current year funding (FY06): $7,000
Cost-to-Complete (FY07+): $25,208,000

Base Realignment and Closure (BRAC) IRP

Primary Contaminants of Concern: VOCs, SVOCs, Metals, Hydrocarbons, MTBE
Affected Media of Concern: Soil, Groundwater, Sediment, Surface Water
Estimated date for RIP/RC: 2014/Indefinite
Funding to date (up to FY05): $44,766,000 (BRAC + Active)
Current year funding (FY06): $3,247,000
Cost-to-Complete (FY07+): $5,403,000 (BRAC IV), $ 6,789,000 (BRAC V)

Installation Historic Activity

Red River Army Depot (RRAD) is an active US Army Facility. The major operational facilities on the Depot include: maintenance and rebuild of military vehicles, demilitarization of out-of-specification ordnance, ammunition storage, maintenance, modification, and recertification of the Hawk, Chaparral, and Patriot missiles, tank track and road wheel rebuild, and rubber products maintenance. Currently, most of the acreage covered by RRAD is used for commercial forestry and ammunition storage.

In 1942, the Army purchased the majority of the land (19,081 acres) for RRAD from several landowners in Bowie County. RRAD was initially intended to be a reserve ammunition storage depot; however, in December 1942 additional missions were added. Some of the missions included overhaul and modification of tanks, shipment of tanks, tactical vehicles, artillery, and small firearms. From 1943 until March 1944, Lone Star Army Ammunition Plant (LSAAP) was loosely combined with RRAD as the Texarkana Ordnance Center. In 1945, LSAAP was made a part of RRAD and remained as such until 1951. As a result of partial closure as a result of the Base Alignment and Closure Commission 1995 mandates and on-going utility privatizations there are approximately 797 acres of an original 19,081 acres that has already or will soon be transferred out of Army control.

During World War II and the Korean War, the depot served as an Ordnance Training Center for the purpose of training officers in ordnance support. The Ordnance Training Center was deactivated after the Korean War, but occasionally provides training to US Army Reserve units.

Major tenants at RRAD are the Defense Reutilization Marketing Service (DRMS), the Defense Logistics Agency, and the Red River Munitions Center. DRMS reutilizes and/or disposes of surplus items. The Defense Logistics Agency supports seven of the eleven CONUS divisions in an eighteen state area.

Red River Army Depot was issued a Part B Permit for a Municipal Hazardous Waste Management Site on December 13, 1988 (Permit No. HW-50178-000, EPA ID No. TX 3213820738) pursuant to the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA). Provision VIII of the Permit requires RRAD to conduct RCRA Facility Investigations (RFI). RFI's are required to determine whether hazardous constituents have been released into the environment. The Texas Commission on Environmental Quality is responsible for enforcing the requirements of the Part B Permit.

BRAC 95 realigned RRAD by moving the M113 vehicle mission to other depots. The installation retained its Bradley Fighting Vehicle, the intern training, Patriot Missile, and rubber production missions. Areas of environmental concern at the depot include the oil-water separator lagoons, spill sites associated with previous industrial and pre-RCRA disposal activities, and spill sites associated with pesticide storage and mixing activities. Trichloroethylene (TCE) is the main contaminant affecting groundwater at the installation. In FY95, the installation formed a BRAC cleanup team (BCT) and the community formed the Red River Local Redevelopment Authority (RRLRA). In FY96, the installation formed a

Restoration Advisory Board (RAB) and prepared a BRAC cleanup plan (BCP). The BCP was updated in FY01. The installation maintains a partnership with the Texas Natural Resource Conservation Commission through the Defense and State Memorandum of Agreement (MOA) program.

The installation has removed more than 2,000 cubic yards of contaminated sediment from the north and south storm water drainage ditches in the Western Industrial Area (WIA). The Army has transferred 625 acres of the 797 acres of BRAC property to the RRLRA. The cleanup progress at Red River Army Depot for FY00 through FY03 is detailed below.

In FY00, the installation worked with the Waterways Experiment Station to prepare a groundwater model of the WIA area to support cleanup decisions. The installation completed all CERCLA-uncontaminated acreage determinations with regulatory approval. The installation also provided a training session for the RAB on bioremediation and wetlands.

In FY01, the Army updated the BCP and transferred acreage to the RRLRA. The Army calibrated the WIA groundwater modeling study. The BCT was active in all reviews related to property transfer. The installation closed out two storm water lagoons located on excess property. The Army cleaned out and refilled the north lagoon, and removed sludge from the south lagoon as hazardous waste due to high metal concentrations.

In FY02, the installation completed the cultural resources MOA and submitted it to the regulators for review. Closure of the south lagoon was completed. The installation initiated the WIA risk assessment.

The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. Five Military Munitions Response Program (MMRP) sites were identified at the non-BRAC, active portion of this installation. No BRAC MMRP sites were identified.

In FY03, the installation completed the groundwater modeling study in the WIA and submitted the study to regulators. Repairs were made to the chrome and storm sewers by relining with cured-in-place-piping. The Hays Plant Affected Property Assessment Report (APAR) was completed. The Army awarded a contract for the removal of the chrome beds at the industrial waste treatment plant. The installation expanded sampling at the X-1 sewer treatment plant to define the extent of contamination. The installation initiated an MMRP site inspection (SI) in the active portion of the installation.

In FY04, the installation completed removal actions at the former pesticide pit and submitted the APAR and Response Action Completion Report (RACR) for regulator review. A Release Investigation Report (RIR) was submitted and approved by the State for the former diesel transfer station at building 172. The APAR was approved, removal actions completed and a RACR submitted at the former Hays Sewer Plant site. An RIR

was completed and submitted for the IWTP and removal actions were completed and a RACR submitted for the chrome drying beds. A pilot project for the treatment of DNAPL was completed, the offsite investigation was completed along Panther Creek and the extent of contamination was defined at the X-1 Sewer Plant. A Finding of Suitability to Transfer (FOST) approximately 14 acres was completed.

In FY05 removal actions were completed at the former pesticide pit and the APAR and RACR were approved. A pump test was performed at the X-1 Sewer Plant and the APAR and RAP were submitted to the TCEQ and EPA. A performance based contract was awarded to obtain RIP/RC on all sites within the WIA.

DERP IRP

- Prior Year Progress: Completed soil removal action at ammunition incinerator building 722. Performed environmental investigation work on 49 sites. Determined through environmental investigations that no further action was required on 18 sites. Performed groundwater monitoring at 12 sites. Completed a dual-phase extraction pilot study to determine the technical impracatibility of removing solvents from groundwater. perform contaminated soil removals at building 433 and the used oil/ antifreeze recycling

- Future Plan of Action: Complete cleanup actions at former ammunition incinerators; tanks; Implement plume management zones at 6 sites. Perform long term maintenance or monitoring at 8 sites; perform an interim removal project for fuel in groundwater at the dynamometer shop.

DERP MMRP

- Prior Year Progress: Field work occurred to determine potential presence of MC and MEC in May 2005. A draft Site Inspection Report was submitted to TCEQ in Nov 2005.
- Future Plan of Action: Remedial actions such as UXO removal and soil remediation/removal for each site will be determined at the conclusion of site investigations.

BRAC IRP

- Prior Year Progress: Completed removal actions at the former pesticide pit and received approval of the APAR and RACR. Submitted APAR and RAP for the WIA. Submitted APAR and RAP for the X-1 Sewer Treatment Plant and performed pump test for Class 3 groundwater demonstration. Transferred 14 acres of land to the Red River Redevelopment Authority. Submitted FOSTS for Tracts, 5B, 6A, 6B, 6C, 6D, 8, 10, 12, & 13 and for Tracts 3A, 5A, 5C & 9.

- Future Plan of Action: Complete Historical Properties MOA between State Historical Preservation Officer (SHPO). Complete RA at the WIA sites and the X-1 Sewer Plant. Begin CMI(O)/LTM. Transfer remaining property.

RED RIVER ARMY DEPOT

Installation Restoration Program

Total AEDB-R IRP Sites/ AEDB-R Sites with Response Complete: 48/38

Different Site Types:

2	Burn Area	11	Contaminated Buildings
1	Contaminated Sediments	1	Contaminated Water
1	Firing Range	2	Explosive Ordnance Disposal Area
1	Landfill	1	POL
1	Pistol Range	1	Small Arms Range
19	Spill Site Area	5	Surface Impoundment Lagoons
1	UST	1	Wastewater Treatment Plant

Most Widespread Contaminants of Concern: VOCs, SVOCs, Metals, Hydrocarbons, DNT, Solvents, TPH, TCE, Lead

Media of Concern: Soil, Groundwater, Sediment, Surface Water

Completed REM/IRA/RA:

1989	RA	CEL
1993	IRA	Wood Landfill
1995	IRA	BB-15 Area
1996	IRA	Bldg 1025
2005	CMI(C)	Bldg 722

Total IRP Funding:

Prior years (up to FY05):	$ 47,766,000 (this amount includes BRAC and Active)
Current year funding (FY06):	$ 383,000
Future Requirements (FY07+):	$ 5,979,000

Duration of IRP:

Year of IRP Inception:	1988
Year of RIP/RC Completion:	2007/2015
Year of IRP Completion:	Indefinitely

IRP Contamination Assessment

IRP Contamination Assessment Overview

Currently, there are 88 AEDB-R sites. In FY07, 4 sites are receiving IRP funding, 8 sites are receiving BRAC funding, and the rest are response complete.

The major releases to the environment have occurred in the Western Industrial Area (WIA), Closed Ordnance Training Center Landfill (OTC), and other closed landfills. The primary contaminants of concern are chlorinated solvents that were used in degreasing, paint, and fuel operations. The solvents used include trichloroethylene, 1,1,1-trichloroethane and methylene chloride. Solvents and their degradation compounds have been found in sediments, soils, groundwater, and surface water around the maintenance area. The other contaminants of concern are heavy metals that include barium, cadmium, chromium, copper, zinc, lead, nickel, and silver commonly found in metal finishing processes.

Solvents have contaminated the groundwater under WIA and OTC. The extent of the contamination has not been completely delineated at the WIA, and has the potential to migrate off-post. Contamination and future activities at WIA are being conducted under both the ER,A and BRAC programs. Studies are underway to determine rate and extent of groundwater and surface water contamination.

Other releases to the environment have occurred at three former ammunition incinerators. The contaminants of concern are primarily heavy metals. Soil removal actions were completed at one of these incinerators in 2005

A permit application for a plume management zone for LTM at the closed OTC landfill was submitted to state regulators in 2005. The USEPA and state regulators are pressing for source reduction in WIA, Building 433, and at the OTC landfill. RRAD conducted a pilot study at RRAD-71 building 350 to test solvent remediation technologies. Dual phase extraction was the technology chosen by the US Army to best study the practicality of removal of solvents in relatively impermeable clay shale.

IRP Cleanup Exit Strategy

Specifics can be found in Cleanup Strategies for each site.

No Date

- US Army Corps of Engineers, Fort Worth District, Demolition Plan Spill Control for Underground Storage Tank, Adjacent
- US Army Corps of Engineers, Fort Worth District, Field Report, Volume # I-Text and Appendices A-M for Building #265 and Adjacent Storm Water Ditches, Red River Army Depot
- US Army Corps of Engineers, Technical Evaluation Study Solid Waste Generation And Disposal, Red River Army Depot

1972

- Texas Water Development Board No. 157, Survey of The Subsurface Saline Water of Texas, Vol. #7,Geologic Well Data-East Texas, September

1978

- Department of the Army, office of the Project Manager For Chemical Demilitarization And Installation Restoration, Installation Assessment of Red River Army Depot, Record Evaluation Report No. #125, July

1980

- CH2M Hill, Solid Waste Disposal Study, October 6

1984

- US Army Corps of Engineers, Fort Worth District, De-Activation Incinerator Trial Burn Pan for RCRA-Part B Permit Application, Red River Army Depot, March
- US Army Corps of Engineers, Fort Worth District, Final Report, RCRA Well Installation, CEL Area, August 13
- Dames & Moore, Houston, TX, Groundwater Quality Assessment OTC Area for The Army Corps of Engineers, August 16
- Dames & Moore, Houston, TX. Groundwater Quality Assessment WWT Area for The Army Corps of Engineers, August 16

1985

- US Army Corps of Engineers, Fort Worth District, Specifications For Ordnance Training Center Area Closure, Red River Army Depot, July
- US Army Corps of Engineers, Fort Worth District, Pre-Concept Design Analysis for Co-Op Sanitary Landfill, Red River Army Depot, November

1986

- US Army Corps of Engineers, Fort Worth District, Post Closure Plan (Amendment of Plan), Ordnance Training Center (OTC)-Hazardous Waste Landfill, Red River Army Depot, March 3
- US Army Corps of Engineers, Fort Worth District, Closure Plan-Hayes Batch Treatment Process Plant, Red River Army Depot, May

Previous Studies

1987

- US Army Corps of Engineers, Fort Worth District, Groundwater Quality Assessment Plan, OTC Area, Red River Army Depot, March 12
- US Army Corps of Engineers, Fort Worth District, Contaminated Soil Investigation Beneath Building #348, Red River Army Depot, November

1988

- US Army Corps of Engineers, Fort Worth District, Remedial Investigation of Hayes Batch Treatment Plant, Red River Army Depot, June 3
- US Army Corps of Engineers, Fort Worth District, Application For SubPart X Permit, OB/OD Grounds, RCRA Part B Permit Application, Red River Army Depot, November

1989

- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Work Plans for Red River Army Depot, February

1990

- US Army Corps of Engineers, Fort Worth District, Site Assessment for Subsurface Release of Diesel Fuel at Building #333, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Site Assessment for Sub-Surface Release of Gasoline and Diesel, Building #162 F, Red River Army Depot, July
- US Army Corps of Engineers, Environmental Noise Consultation No. 52-34-624-90 Noise Contours, Red River Army Depot, July

1991

- US Army Corps of Engineers, Integrated Natural And Cultural Resource Management, Red River Army Depot/Lone Star Army Ammunition Plant, January
- US Army Corps of Engineers, Cultural Resource Management Plan, Red River Army Depot/Lone Star Army Ammunition Plant, February
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation, Ordnance Training Center (OTC), Interim Status Report, June
- US Army Corps of Engineers, Fort Worth District, Site Assessment For Subsurface Release of Gasoline And Diesel Addendum, Building #162, August
- US Army Corps of Engineers, Fort Worth District, Closure Plan for Chromate Sludge Dewatering Beds, Industrial Wastewater Treatment Plant, September
- US Army Corps of Engineers, Fort Worth District, Site Assessment Addendum for Subsurface Release of Diesel Fuel at Building #333, September

1992

- US Army Corps of Engineers, Fort Worth District, Soil Gas Survey- Building #345, March

- US Army Corps of Engineers, Fort Worth District, Volumes I & II-RCRA Facility Investigation, Final Report, Includes: Buildings #430, Big Creek, Sludge Drying Beds, WWT Area, POL Pump Site, OTC Area, Panther Creek, and Pesticide Pit, Red River Army Depot, April 22
- US Army Corps of Engineers, Fort Worth District, Water Quality Survey No. 31-62-GM2-92, Red River Army Depot, April
- US Army Corps of Engineers, Fort Worth District, Building #420, Soil Investigation (Two Phases), Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Closure/Post Closure Plan for the Incinerator At Buildings #1027, 1025 and 722, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Geologic Siting-Industrial Waste Landfill, Red River Army Depot, December

1993

- US Army Corps of Engineers, Fort Worth District, Building #345, Interim RFI Report, April
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Amended Report, Sludge Drying Beds, Red River Army Depot, May 10
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Amended Report, SWMU-WWT Area, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Amended Report, Panther Creek, Red River Army Depot, July
- US Army Corps of Engineers, Fort Worth District, Red River Army Depot Installation Action Plan, July
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Amended Report, POL Pump Site, Red River Army Depot, September
- US Army Corps of Engineers, Fort Worth District, Interim Removal Building #265, Red River Army Depot, September 21
- US Army Corps of Engineers, Fort Worth District, Current Status and Observation Report, Building #162, First Quarter (Jul-Sep 1993), Red River Army Depot, October
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Amended Report, OTC Area, Red River Army Depot, November
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Amended Report, Pesticide Pit, Red River Army Depot, December

1994

- US Army Corps of Engineers, Fort Worth District, Interim Action Work Plan-Panther Creek (Removal of Soil and Sediment From Two Ditches), Red River Army Depot, April
- US Army Corps of Engineers, Fort Worth District, Red River Army Depot Installation Action Plan, July

- US Army Corps of Engineers, Fort Worth District, Plans and Specifications To Remove Contaminated Soil at the WWT Area & Panther Creek, August
- US Army Corps of Engineers, Requirements for the Preparation of Sampling And Analysis Plans - Engineers Manual, September
- US Army Corps of Engineers, Fort Worth District, Soil Investigation at Building #1027, Red River Army Depot, November

1995

- US Army Corps of Engineers, Fort Worth District, Red River Army Depot Installation Action Plan, January
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Addendum To the Amended Report, Pesticide Pit, Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, Final Specifications for Building #1025 and #722 - Incinerator and Contaminated Soil Removal, Volume # 2, Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation for SWMU Building #333, Red River Army Depot, March
- US Army Corps of Engineers, Fort Worth District, Final Specifications for Building #1025 and #722 Incinerator And Contaminated Soil Removal, Vol. # 1, March
- US Army Corps of Engineers, Fort Worth District, Demolition And Disposal of Building #1025, Incinerator and Contaminated Soil, Final Submittal-Design Analysis, Red River Army Depot, March
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation For Building #333, Red River Army Depot, April
- US Army Corps of Engineers, Fort Worth District, Closure Plan, Building #722, April
- US Army Corps of Engineers, Fort Worth District, Closure Plan, Building #1025, April
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Soil Investigation, Building #1025, Red River Army Depot, April
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation, Building #345, Red River Army Depot, April
- US Army Corps of Engineers, Fort Worth District, RCRA Corrective Measure Study, Work Plan-Draft, WWT Area/Panther Creek, Red River Army Depot, May 5
- Toxic Chemical Release Inventory (TRI) Report, EPA Form R, June
- US Army Corps of Engineers, Fort Worth District, Closure Plan-Industrial Wastewater Treatment Lagoons, Red River Army Depot, August
- US Army Corps of Engineers, Fort Worth District, Baseline Risk Assessment, Maintenance Salvage Yard, Red River Army Depot, August
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation, Building #348, Red River Army Depot, September

- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation for SWMU-Building #348, Red River Army Depot, September
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation, BB-15 Area, Red River Army Depot, October
- US Army Corps of Engineers, Fort Worth District, Report of Findings, Soil Investigation North East of Building #1025, Red River Army Depot, November
- US Army Corps of Engineers, Fort Worth District, Closure Report Building #1025, Demolition and Soil Excavation, Red River Army Depot, November
- US Army Corps of Engineers, Fort Worth District, Draft- Baseline Risk Assessment, Building #345, Red River Army Depot, December 15

1995-2001

- US Army Corps of Engineers, Fort Worth District, CEL/OBOD, Sludge Beds, Ground Water Tables and Maps, Red River Army Depot

1996

- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation-Hayes Plant, Red River Army Depot, March
- US Army Corps of Engineers, BRAC Cleanup Plan Version 1 Workbook, May
- US Army Corps of Engineers, Fort Worth District, Small Arms Ammunition Demilitarization Facility (Building 1025), RCRA Facility Investigation Work Plan, October
- US Army Corps Of Engineers, Scope Of Work–Industrial Waste Water Treatment Lagoons, Red River Army Depot, November
- US Army Corps of Engineers, Red River Army Depot, Updated CERFA Letter Report (inside BRAC 95 Program Binder), December 6
- US Army Corps of Engineers, BRAC 95 Program- Environmental Baseline Survey, Final Report, Red River Army Depot, December 18
- US Army Corps of Engineers, Report of Findings-Soil Stock Pile Sampling, Building #1025, Red River Army Depot, December

1997

- US Army Corps of Engineers, Fort Worth District, Closure Report for Industrial Wastewater Treatment Lagoons, Building #356, Red River Army Depot, January/February
- US Army Corps of Engineers, Fort Worth District, Closure Reports for Building #1025, Demolition and Soil Excavation, Volumes # I and II, Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, Red River Army Depot-Installation Action Plan, February
- US Army Corps of Engineers, Fort Worth District, Final Closure Plan for Industrial Wastewater Treatment Lagoons, Red River Army Depot, April

- US Army Corps of Engineers, Fort Worth District, Closure Report for the Industrial and Final Industrial Wastewater Treatment Lagoons, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Standard Procedures for Soil Sampling, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Draft- Comprehensive Sampling And Analysis Plan, Red River Army Depot, October
- US Army Corps of Engineers, Fort Worth District, Data Compilation Package, Volumes #I, II, and III, Red River Army Depot, October
- US Army Corps of Engineers, Fort Worth District, Task 1 Report for Western Industrial Area, Volume # I, Red River Army Depot, November

1998

- US Army Corps of Engineers, Fort Worth District, BRAC 95 Program, Supplemental Final-Environmental Baseline Survey Report – Final, February 5
- US Army Corps of Engineers, Fort Worth District, Consolidated Footprint-RCRA Facility Assessment, Red River Army Depot, March
- US Army Corps of Engineers, Final Task 1 Report for the Western Industrial Area, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Soil Background Investigation Report, Red River Army Depot, June
- US Army Corps of Engineers, Site Safety and Health Plan For Investigative Activities Investigative Derived Waste Management Plan, and the Investigative Derived Waste Management Plan, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Draft- Sampling and Analysis Plan For the Western Industrial Area, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Supplemental Consolidated Footprint-RCRA Facility Assessment, Red River Army Depot, July
- US Army Corps of Engineers, Fort Worth District, Sampling And Analysis Plan for the Western Industrial Area, Red River Army Depot, July
- US Army Corps of Engineers, RCRA Part B Permit, Regulatory Requirements, Compliance Plan, Enforcement Actions/ Penalties, Red River Army Depot, September
- US Army Corps of Engineers, Fort Worth District, Groundwater Background Investigation Report, Red River Army Depot, September
- US Army Corps of Engineers, Fort Worth District, Task 1 Report for Pesticide Pit Area, Red River Army Depot, September
- US Army Corps of Engineers, Fort Worth District, Final-RCRA Facility Investigation Work Plan for Buildings #350, 414, and 433, Red River Army Depot, September
- US Army Base Realignment And Closure (BRAC), '95 Program BRAC Cleanup Plan Report, Version II Draft Report, October

- US Army Corps of Engineers, Fort Worth District, Sampling And Analysis Plan Draft for The Pesticide Pit, Red River Army Depot, November

1999

- US Army Corps of Engineers, Fort Worth District, Compliance Plan, January 21
- US Army Corps of Engineers, Consolidated Footprint, RCRA Facility Assessment For Buildings #172, and #334A, Ditch Between the Motor Pool and the Lumber Yard and X-1 Sewage Treatment Plant, Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, Lead- Based Paint Inspection, Military Housing, Buildings # 10, 20, 28, and 30, Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, Final Site Specific Health and Safety Plan Excavation of Pesticide Soils, Red River Army Depot, March 19
- US Army Corps of Engineers, Fort Worth District, Draft–Data Summary Report for the Western Industrial Area and Pesticide Pit Sites, Vol. # I -Report, Vol. # II–Appendices, and Vol. # III – Analytical Data, Red River Army Depot, March
- US Army Corp of Engineers, Fort Worth District, Final Task I Report for Miscellaneous Sites, Red River Army Depot, May
- US Corps of Engineers, Fort Worth District, Technical Review of the Economic Development Conveyance, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Ordnance Training Center (OTC), Semi-Annual Report, Red River Army Depot, July 19
- US Army Corps Of Engineers, Fort Worth District, RCRA Facility Assessment, Advanced Consolidated Footprint, Volumes # I & # II, Red River Army Depot, July
- US Army Corps Of Engineers, Fort Worth District, Natural Attenuation Study Work Plan for the Western Industrial Area (WIA), Red River Army Depot, August
- US Army Corps of Engineers, Fort Worth District, Draft- Technical Approach Document for Risk Assessment, Western Industrial Area (WIA), Red River Army Depot, August
- US Army Corps of Engineers, Fort Worth District, Panther Creek Hydrology Study, Monthly Report for July 1999, Red River Army Depot, August
- US Army Corps of Engineers, Fort Worth District, Data Summary Report for Western Industrial Area and Pesticide Pit, Volume #1-Report, Red River Army Depot, August
- US Army Corps of Engineers, Fort Worth District, Final Soil Background Investigation, Red River Army Depot, August
- US Army Corps of Engineers, Fort Worth District, Red River Army Depot Water And Waste Water Plan and NPDES Permitting, September
- US Army Corps of Engineers, Fort Worth District, Panther Creek Hydrology Study, Monthly Report for September 1999, Red River Army Depot, October

2000

- US Army Corps of Engineers, Fort Worth District, Cross- Connection Control Plan, Red River Army Depot, January

Previous Studies

- US Army Corps of Engineers, Fort Worth District, Cross- Connection and Backflow Prevention Survey Report, Cross-Connection Control Program. January
- US Army Corps of Engineers, Fort Worth District, Panther Creek Hydrology Study, Monthly Reports for October 1999, Red River Army Depot, January
- US Army Corps of Engineers, Fort Worth District, Internal Draft-Affected Property Assessment Report (APAR) for the Western Industrial Area, January
- US Army Corps of Engineers, Fort Worth District, Semi- Annual Report for (OTC) Ordnance Training Center, Red River Army Depot, January 21
- US Army Corps of Engineers, Fort Worth District, Natural Attenuation Study at Ordnance Training Center (OTC), Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, Draft– Affected Property Assessment Report (APAR) for the Western Industrial Area (WIA), February
- US Army Corps of Engineers, Fort Worth District, Work Plan (Draft) for the X-1 Sewage Treatment Plant, Red River Army Depot/Lone Star AAP, February
- US Army Corps of Engineers, Fort Worth District, Internal Draft Affected Property Assessment Report (APAR) for the Hays Plant Area, Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, Work Plan For the X-1 Sewage Treatment Plant, Red River Army Depot/ Lone Star Army Ammunition Plant, March
- US Army Corps of Engineers, Fort Worth District, Final Site Safety and Health Plan for X-1 Sewage Treatment Plant, Red River Army Depot/Lone Star AAP, March
- US Army Corps of Engineers, Fort Worth District, Final–Data Summary Report for Miscellaneous Sites, Red River Army Depot, April
- US Army Corps Of Engineers, Fort Worth District, Internal Draft–Affected Property Assessment Report (APAR) for the POL Pump Site, Red River Army Depot, April
- US Army Corps of Engineers, Fort Worth District, Internal Draft-Affected Property Assessment Report (APAR) for Buildings #1025, and 722, Red River Army Depot, April
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Report for Building #350, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Report for Building #414, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Report for Building #433, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Draft-Affected Property Assessment Report (APAR) for the POL Pump Site, Red River Army Depot, May
- US Army Corps of Engineers, Final Background Characterization of Groundwater Investigation Report, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Field Report, Volume I-Text & Appendices-A-N For Excavation of Contaminated Soil at the Water Tower, Red River Army Depot, May

- US Army Corps of Engineers, Fort Worth District, Data Summary Report for Miscellaneous Sites, Volume # 1, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Data Summary Report for Miscellaneous Sites, Volume # II, Analytical Data and Data Validation Report, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Natural Attenuation Study, Western Industrial Area (WIA), Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Closure Report for Excavation of Contaminated Soil at the Water Tower, Red River Army Depot, June
- US Army Corps of Engineers, Fort Worth District, Internal Draft, Affected Property Assessment Report (APAR), Ordnance Training Center (OTC), June
- US Army Corps of Engineers, Fort Worth District, Ordnance Training Center), Semi-Annual Report, Red River Army Depot, June 21
- US Army Corps of Engineers, Fort Worth District, Revised Final Comprehensive Sampling and Analysis Plan, Red River Army Depot, July
- US Army Corps of Engineers, SCAPS (Site Characterization And Penetrometer System) Investigation, Field Report, Red River Army Depot, September
- US Army Corps of Engineers, Fort Worth District, Draft Final– Corrective Measures Study for the Western Industrial Area (WIA), Red River Army Depot, September
- US Army Corps Of Engineers, Fort Worth District, Remediation Report for Building #265 and Adjacent Storm Water Ditches, Red River Army Depot, September
- US Army Corps Of Engineers, Fort Worth District, Revised Draft–Affected-Property Assessment Report (APAR) for the Western Industrial Area (WIA), September
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Report for X-1 Sewage Treatment Plant, Red River Army Depot, October
- US Army Corps of Engineers, Fort Worth District, Panther Creek Hydrology Study, Monthly Report For April 1999, Red River Army Depot, October
- To Building #334A and North & South Storm Water Underground Impoundments, Red River Army Depot, November 7
- US Army Corps of Engineers, Fort Worth District, Environmental Protection Plan– Spill Control Underground Storage Tank Adjacent To Building #334A And North & South Storm Water Underground Impoundments, Red River Army Depot, November 7
- US Army Corps of Engineers, Fort Worth District, Revised Draft RCRA Facility Assessment for Buildings #163 and 166, Red River Army Depot, December

2001

- US Army Corps of Engineers, Fort Worth District, Natural Attenuation Study for Ordnance Training Center (OTC), Red River Army Depot, January

- US Army Corps of Engineers, Fort Worth District, Summary of Field Activities, Western Industrial Area, Hays Plant Additional Cluster Well, Jan/ Feb 2001 Installation, Red River Army Depot, February
- US Army Corps of Engineers, Fort Worth District, Environmental Quality, Requirements for the Preparation of Sampling and Analysis Plans, Engineer Manual, February 1
- US Army Corps of Engineers, Fort Worth District, Installation Action Plan for Red River Army Depot, March
- US Army Corps of Engineers, Fort Worth District, Findings of Suitability to Transfer Buildings #133, 150, 154, 167, 184, 281, 286, 290, the Water Tower, the Directorate of Public Works, Storage Yard and Housing Area, Buildings #10, 20, 28, & 30, March
- US Army Corps of Engineers, Fort Worth District, Semi-Annual Report for Ordnance Training Center (OTC), Red River Army Depot, July
- US Army Corps of Engineers, Fort Worth District, Draft-Work Plan for X-1 Sewage Treatment Plant, Post RFI Investigation, Red River Army Depot/Lone Star Army Ammunition Plant, November
- US Army Corps of Engineers, Fort Worth District, Draft-Site Safety and Health Plan for Industrial Wastewater Treatment Plant, Red River Army Depot, November
- US Army Corps of Engineers, Fort Worth District, Final Site Safety and Health Plan for Post RFI Investigation at X-1 Sewage Treatment Plant, Red River Army Depot/Lone Star Army Ammunition Plant, November
- US Army Corps Of Engineers, Fort Worth District, Summary Of Field Activities-Western Industrial Area, Hays Plant, And Additional Cluster Well Installation for Aug-Nov 2001, Red River Army Depot, November
- US Army Corps Of Engineers, Fort Worth District, Monitored Natural Attenuation Evaluation, OTC (Ordnance Training Center) Landfill, November 13
- US Army Corps of Engineers, Fort Worth District, Draft of Work Plan for Affected Property Assessments (APAR) for Closed Wood Yard and 1313 Landfill, December

2002

- US Army Corps of Engineers, Fort Worth District, Installation Action Plan
- US Army Corps of Engineers, Fort Worth District, Final Work Plan for X-1 Sewage Treatment Plant Post RFI Investigation, Red River Army Depot/Lone Star Army Ammunition Plant, January
- US Army Corps of Engineers, Fort Worth District, Ordnance Training Center (OTC) Area, Semi-Annual Report, Red River Army Depot, January
- US Army Corps of Engineers, Fort Worth District, Draft–Work Plan for Soil and Groundwater Investigation Near Buildings #1025 & #1027, February
- US Army Corps of Engineers, Fort Worth District, Work Plan- Affected Property Assessments (APAR) for the Closed Wood Yard and 1313 Landfill, March

- US Army Corps of Engineers, Fort Worth District, Draft–Work Plan for Building #433, Post RFI Investigation, Red River Army Depot/Lone Star Army Ammunition Plan, April
- US Army Corps of Engineers, Fort Worth District, Comprehensive Sampling and Analysis Plan (CSAP), Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Draft–Work Plan Excavation of Contaminated Soil, Building #722, Red River Army Depot, May
- US Army Corp of Engineers, Final Work Plan for Building #433 Post-RFI Investigation, Red River Army Depot, June
- US Army Corps of Engineers, Site Safety and Health Plan for Soil and Groundwater Investigation Near Building #1025 and #1027, Red River Army Depot, July
- US Army Corp of Engineers, Final Work Plan for Soil and Groundwater Investigation Near Buildings #1025 and #1027, Red River Army Depot, July
- US Army Corps of Engineers, Draft-APAR, Volume I, Closed Wood Yard (1315 Landfill), Red River Army Depot, August
- US Army Corps of Engineers, Draft-APAR, Volume II, Closed Wood Yard (1315 Landfill), Red River Army Depot, August

2003

- US Army Corps of Engineers, Red River Army Depot Installation Plan FY 2003
- US Army Corps of Engineers, Fort Worth District, Annual Report
- US Army Corps of Engineers, Fort Worth District, 2002 Annual Report, Red River Army Depot, January
- US Army Corps of Engineers, Fort Worth District, Final Supplemental RCRA Facility Investigation Report for Building 414, February
- Newfields/ BBL, BRAC/DERA Western Industrial Area Strategic Plan, Red River Army Depot, February
- “Tetra Tech NUS Inc, Affected Property Assessment Report (2 Volumes) for Closed Wood Yard (1315 Landfill Red River Army Depot, March
- US Army Corps of Engineers, Fort Worth District, Response Action Completion Report (2 Volumes) North and South Stormwater Lagoons and UST at Building 334A, May
- Remedial Action Completion Report for North and South Stormwater Lagoons, May
- Site Investigation Data Report for OTC Landfill, May
- US Army Corps of Engineers, OTC-Semi-Annual Report, Red River Army Depot Installation Plan, July
- OTC Landfill Semi-Annual Report, July
- Draft Final Affected Property Assessment Report for Building 1027 Area, July
- US Army Corps of Engineers, Fort Worth District, Response to TCEQ, June 7, 2002, Comments on OTC Monitored Natural Attenuation Study, September
- Draft Final Affected Property Assessment Report for 1313 MSW Landfill, September

- US Army Corps of Engineers, Comprehensive Sampling and Analysis Plan, Red River Army Depot, October
- Draft Storm Sewer Repair Report, October
- Draft Chromate Sewer Repair Report, October
- Parsons, Workplan for APAR Investigation at Building 722, Red River Army Depot, November
- Parsons, Draft Supplemental RCRA Facility Investigation Report for Building 414, Red River Army Depot, November

2004

- 2003 Annual Report, January
- OTC Landfill Monitored Natural Attenuation Addendum 2, February
- Building 172 Release Investigation Report, March
- Industrial Wastewater Treatment Plant Release Investigation Report, April
- Final Affected Property Assessment Report for Hays Plant, April

2005

- 2004 Annual Report, January
- Semi-annual Report for OTC Landfill, July
- Performance Based Contract for Red River Army Depot, August
- Final Program Management Plan for PBC Contract, October
- Compliance Plan Modification Application, December
- Corrective Measures Implementation Plan for OTC Area, December

2006

- 2005 Annual Report, January
- Amended Affected Property Assessment Report 1313 Landfill, January
- Permit HW-50178 Application for Class 1 Modification, January

RED RIVER ARMY DEPOT

Installation Restoration Program
Sites Descriptions

RRAD-28
WOODYARD LANDFILL

SITE DESCRIPTION

This site (approximately 6 acres) was used for storage of wood pallets and scrap wood from 1970 - 1984. Another name for the site is the closed Municipal Solid Waste landfill permit number 1315. The waste was covered with a three foot compacted clay cap and groundwater detection monitoring was initiated in FY94. An additional 18" clay cap was installed in the fall of 1994.

VOCs were detected in monitoring well WD-2 during a 1999 sampling event. Subsequent sampling showed no VOC detects in any of the wells.

A Request for Voluntary Revocation of the Permit along with copy of Affidavit to the Public was submitted to TCEQ in January 2006. If approved by TCEQ then no further groundwater monitoring is anticipated.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
RFA	197803	197807
CS	197803	197807
RFI	199712	200309
IRA	199304	199403
LTM	200310	200609

RC DATE: 200309

CLEANUP STRATEGY

Cap maintenance will be conducted as part of the installation's best management practices in accordance with the RRAD Master Plan.

RRAD-35
SOIL UNDERLYING BLDG. 345, NORTH WASHRACK

SITE DESCRIPTION

Building 345 is located in the center of the Western Industrial Area (WIA). This two-story, ~300,000 sq ft, building was built in 1942 and accommodates mechanical tear down, metal finishing, and re-build of military vehicles. There were an unknown number of solvent (TCE, TCA) spills during the 1950s and 60s. This site is still active; however, TCE and TCA are no longer being used at the Depot.

Chlorinated solvents have been detected in the groundwater since 1991.

The solvents in the groundwater are potentially causing a threat of exposure in surface water (Panther Creek).

The contaminated soil is covered by the building and is on top of a layer of dense clay. The bulk of the contamination runs along a ditch that defines the BRAC/ER,A border.

STATUS

REGULATORY DRIVER: RCRA

RRSE: High

CONTAMINANTS OF CONCERN:
Metals, VOCs, SVOCs, DNAPLs

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	197803	197807
IRA	199411	199503
RFI/CMS	199109	200709
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203710

RIP DATE: 200709
RC DATE: 201509

CLEANUP STRATEGY

This site will be part of the proposed WIA PMZ. LTM will continue indefinitely and will consist of groundwater monitoring and LUC.

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

RRAD-36
BUILDING 371 (BATTERY SHOP) SOILS

SITE DESCRIPTION

Building 371 is used as a battery shop where large, wet cell, lead-acid forklift batteries are recharged and stored. No other historic uses for this building are known.

Trichloroethylene (TCE) contamination has been present in monitoring wells around Building 371. Groundwater TCE has exceeded PCLs. Soil PCLs have not been exceeded.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Medium

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
RFA	199207	199207
RFI/CMS	199811	200709
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203710

RIP DATE: 200709
RC DATE: 201509

CLEANUP STRATEGY

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Kemron will revise the APAR in accordance with TCEQ's comments and resubmit.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM will be funded under this site.

RRAD-37
SOILS UNDERLYING BLDG. 373 (DYNAMOMETER SHOP)

SITE DESCRIPTION

Bldg 373 is located south of Bldg 371. It has been used as RRAD's Dynamometer Shop from the 1940s to present. RRAD has reported various hydraulic fluid and waste oil spills on the basement floor in this building. There is evidence of past fuel leaks to the groundwater and surface water.

Five monitoring wells were installed and a SCAPS investigation was performed. Soil, surface water, sediment and groundwater all have TPH above TCEQ regulatory limits. Low concentrations of DCE and TCE were detected in surface soil. Free product was found in one well inside the building. A recovery system (pump) could not recover this TPH.

CLEANUP STRATEGY

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Medium

CONTAMINANTS OF CONCERN:
LNAPLs

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	197803	197807
CS	199712	199805
RFI/CMS	199811	200709
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203709

RIP DATE: 200709
RC DATE: 201509

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM will be funded under this site.

RRAD-43
SOILS NEAR TRANSFER PUMPS, BLDG. 473

SITE DESCRIPTION

Building 473 is an active site located in the northeast portion of the Depot. This site is also called the POL Pump Site and has four aboveground storage tanks that contain used POL and used antifreeze. The soil is contaminated from past activities with hydrocarbons, solvents, and antifreeze spills at the transfer pump site.

Groundwater has been impacted with solvents. Soil has been impacted with TPH. The primary concern for this site is the use of VOCs which occurred prior to 1987. Solvents are no longer being used and a concrete liner has been added to the bermed floor. An APAR was submitted to TCEQ in 2004 and 2005. State comments on the APAR were received in January 2006.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

CONTAMINANTS OF CONCERN:
Petroleum Hydrocarbons, VOCs

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	198812	198812
RFI/CMS	199012	200709
DES	200508	200709
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203709

RIP DATE: 200709
RC DATE: 201509

CLEANUP STRATEGY

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Kemron will revise the APAR in accordance with TCEQ's Jan 2006 comments and resubmit.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM will be funded under this site.

RRAD-55
CHROMATE EQUALIZATION LAGOON

SITE DESCRIPTION

The Chromate Equalization Lagoon (CEL) Area was located at the Industrial Waste Treatment facility and served as the raw collection point for electroplating rinse water. The lagoon was about 65’ x 95' and operated from 1978-89. The area was excavated upon closure. At least part of the lagoon is now covered with industrial wastewater storage tanks and associated concrete containment berms.

Closure has not been approved by TCEQ, due to groundwater issues involving elevated levels of metals. This site was incorporated into the Compliance Plan in June 2001.

In 2005, one well consistently exceeded the GWPS for lead, another well exceeded the background level for arsenic, and another well exceeded the practical quantitation level for chloroform.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
RFA	197803	197807
CS	198105	198105
DES	198805	198808
CMI(C)	198812	198912
LTM	198912	201809

RC DATE: 198912

CLEANUP STRATEGY

RRAD is going to request of TCEQ that groundwater sampling be reduced to biannual and the COC list be reduced. Groundwater sampling will continue for a total of thirty years (Dec 1996 - 2026).

RRAD-56
BUILDING 315 TRANSFER STATION

SITE DESCRIPTION

The transfer station is located at the north end of Building 315 within the WIA. This site was used to transfer diesel to an aboveground storage tank. An abandoned 420,000 gallon storage tank (#319) is the only remnant left of the station.

Trichloroethylene was detected in the groundwater in the vicinity of the transfer station. The source of the contamination is thought to be unknown solvent spills or releases into a former drainage ditch located on the western portion of the site.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	198606	198701
CS	198606	198701
RFI/CMS	199712	200709
IRA	199306	199308
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203710

RIP DATE: 200709
RC DATE: 201509

CLEANUP STRATEGY

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Kemron will revise the APAR in accordance with TCEQ's comments and resubmit.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM will continue indefinitely and will consist of monitoring, LUC.

RRAD-60
BLDG 433, FORMER RUBBER PRODUCTS BLDG

SITE DESCRIPTION

This building is located east of Bldg 433, south of Bldg 431 at the northeast portion of the maintenance area. The building was used for rubber stripping, re-building of road wheels for tracked vehicles, 1,1,1-trichloroethane vapor degreasing, adhesive application booths, paint operations, sand blasting, and injection molding operations for light tracked armored vehicles. Operations ceased in the early 1980s and the building is currently used for storage.

There were releases of solvents from vats in the north end of the building. Samples collected from soil and groundwater indicate contamination above PCLs.

CLEANUP STRATEGY

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Kemron will revise the APAR in accordance with TCEQ's comments and resubmit. Soil remediation may consist of excavation.

STATUS

REGULATORY DRIVER: RCRA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	199408	199409
CS	199410	199504
RFI/CMS	199510	200709
DES	200508	200709
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203710

RIP DATE: 200709
RC DATE: 201509

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM will continue indefinitely and will consist of monitoring, LUC. LTM will be funded under this site.

RRAD-61
1313 CLOSED LANDFILL

SITE DESCRIPTION

This approximately 40 acre, capped site is located on the west end of Lone Star Army Ammunition Plant. This site will probably be affected by BRAC 2005. The landfill contains municipal waste, including rubber products apparently saturated with chlorinated solvents. The landfill was closed in the early 1990s.

As of August 2005, 11 of the 22 monitor wells had detections of VOCs.

Soil gas survey results showed concentrations of solvents within the western portion of the landfill and just northwest of the landfill cap. A close correlation between the natural attenuation degradation products (TCE, DCE, Vinyl Chloride) was observed in the results.

A revised APAR was submitted to TCEQ in January 2006.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs, Metals

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
RFA	199411	199501
CS	199501	199504
RFI/CMS	199712	200509
LTM	200603	200709

RC DATE: 200509

CLEANUP STRATEGY

Awaiting TCEQ comments on revised APAR by April 2006. If possible RRAD will revoke the permit and discontinue monitoring.

Land use monitoring will be conducted as part of the installation's best management practices in accordance with the RRAD Master Plan**.**

RRAD-62
POPPING FURNACE BUILDING #722

SITE DESCRIPTION

Building 722 is located near the north boundary line, west of the Commerce Park gate. Two incinerators were used to thermally treat obsolete or off-specification munitions from 1956, until the incinerators were dismantled in 1983.

A soil remediation project was completed in July 2005 and approved by TCEQ in October 2005. TCEQ is awaiting implementation of institutional controls as final action.

CLEANUP STRATEGY

Implement Institutional Controls as per October 2005 TCEQ letter.

Land use monitoring will be conducted as part of the installation's best management practices in accordance with the RRAD Master Plan.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

CONTAMINANTS OF CONCERN: Lead, DNT

MEDIA OF CONCERN: Soil

Phases	Start	End
RFA	197803	197807
CS	198105	198105
RFI/CMS	199712	200304
DES	200305	200406
CMI(C)	200407	200507
LTM	200508	200609

RC DATE: 200507

RRAD-63
POPPING FURNACE BUILDING #1027

SITE DESCRIPTION

Buildings 1027 and 1025 were located just north of the open burning/open detonation grounds. Building 1025 ceased operation in the mid 1980s and was removed in the mid-1990s. Building 1027 was in operation from 1956-1976, with some failed trial burns after that period. Building 1027 was partially dismantled in the late 1990s (two walls and the foundation remain) and is an interim status RCRA-regulated unit. Interim removal action was completed in FY95 and FY96 which addressed the bulk of the source contamination.

These incinerators were used to thermally treat obsolete or off-specification munitions. The surrounding area is heavily wooded.

Cadmium and lead have been detected in the soil. In some areas, the contaminants exceeded the human health risk levels. In addition to soil contamination, munitions debris is visible on the site. Munitions debris is material which was processed in the incinerator and fell onto the ground.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Medium

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil, Sediment

Phases	Start	End
RFA	197803	197807
CS	198105	198105
RFI/CMS	199006	200409
DES	200410	200709
CMI(C)	200508	200709

RC DATE: 200709

CLEANUP STRATEGY

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC. Soil remediation will consist of excavation to industrial risk levels.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

Land use monitoring will be conducted as part of the installation's best management practices in accordance with the RRAD Master Plan**.**

RRAD-71
BLDG. 350, FORMER NI-CAD BATTERY SHOP

SITE DESCRIPTION

Building 350 was used for the maintenance of nickel-cadmium (Ni-Cad) batteries. A floor drain that led to a concrete pit outside the building is suspected to have leaked. This site initially was identified as a BRAC site but changed to IRP in 1997.

Historic spills of VOCs into the drainage ditch to the east of Bldg 350 are a probable source of the majority of contamination at this site.

High levels (690 ppm) of solvents were detected in the groundwater. No contamination was detected in air samples.

CLEANUP STRATEGY

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Kemron will revise the APAR in accordance with TCEQ's comments and resubmit.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	199610	199701
CS	199802	199806
RFI/CMS	199811	200709
IRA	200305	200409
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203710

RIP DATE: 200709
RC DATE: 201509

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM will continue indefinitely and will consist of monitoring and LUC.

IRP No Further Action Sites Summary

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
RRAD-07	OTC Hospital	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96	1981
RRAD-08	OTC Rifle Range	NFA because found not eligible for IRP, as this is a FUDS site, site #K06TX013901, Red River Archives Search Report, Huntsville Corps of Engineers, Mar. 1995	1981
RRAD-09	Surveillance Area	NFA because found not eligible for IRP, this is MMRP site RRAD-009-R-01.	1998
RRAD-10	Surveillance Area (1953)	NFA because found not eligible for IRP, this is MMRP site RRAD-008-R-01.	1998
RRAD-11	Surveillance Area (Pistol Range)	NFA because found not eligible for IRP, this is MMRP site's RRAD-001-R-01 and RRAD-002-R-01	1998
RRAD-14	Building 311 (X-RAY Facility)	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96	1987
RRAD-15	RAD Storage (Bldgs. B12-3, G5-6, G14-7, E13-5)	RRAD Safety Office Radiological Surveys in mid 1990's determined NFA. These are still active sites, and not eligible for IRP.	1978
RRAD-16	RAD Storage (F14-1, A14-5, C3-5, C6-1, C9-7, E4-1)	RRAD Safety Office Radiological Surveys in mid 1990's determined NFA. These are still active sites, not eligible for IRP.	1978
RRAD-17	RAD Fire Bldgs 661 (Old T-6)	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96	1978
RRAD-18	RAD Fire Bldg 421	Duplicate RRAD-76	1978
RRAD-19	RAD Waste Storage	The last site update person was 1st BRAC 1995 BEC, so site was probably a BRAC 1995 footprint site that was later transferred out of the BRAC footprint. Site location and details are unknown.	1978
RRAD-21	Flammable Material Storage (S-257, 327, 329, S-402)	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96	1978
RRAD-22	Flammable Material Storage (S-547, S-648, T-1190)	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96	1978
RRAD-26	Aeration Lagoons (4) in Area K	Not eligible for IRP,this is an active industrial category wastewater treatment site	1994
RRAD-30	Popping Furnace Bldg. 1025	Consolidated administratively into adjacent contaminant co-mingled site RRAD-63	2001

IRP No Further Action Sites Summary

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
RRAD-38	Waste Piles	Determined as not eligible for IRP as this is an active site	1993
RRAD-39	Final Lagoon, IWTP	US Army Corps of Engineers, Fort Worth District, Closure Report for Industrial Wastewater Treatment Lagoons, Red River Army Depot, February 1997	1997
RRAD-40	Raw Phosphate Detention Lagoon, IWTP	Determined as not eligible for IRP as this is an active site. Transferred under utility privatization to the local reuse authority.	1994
RRAD-41	Soils Near Bldg. 430	US Army Corps of Engineers, Fort Worth District, Volumes I & II-RCRA Facility Investigation, Final Report, Includes: Buildings #430, Big Creek, Sludge Drying Beds, WWT Area, POL Pump Site, OTC Area, Panther Creek, and Pesticide Pit, Red River Army Depot, April 22, 1992	1989
RRAD-45	Soils Near Bldg. 341	RCRA Facility Investigation Final Report, FWACOE, April 1992	2002
RRAD-46	Big Creek	Consolidated administratively into adjacent site RRAD-04	1992
RRAD-49	TNT Washout Facility Soils	USAEHA Geohydrologic Study No. 38-26-KV-49-93 10 Sep 1993	1993
RRAD-50	OB/OD Area	Determined not eligible for IRP as this is an active site	1993
RRAD-54	Soils at Bldg. 420	Building 420 Soils Investigation, Fort Worth COE, May 1992	1993
RRAD-57	Maintenance Salvage Yard	Baseline Risk Assessment for Maintenance Salvage Yard, Fort Worth Corps of Engineers, August 1995	1999
RRAD-59	D-Area Y-Site	NFA because found not eligible for IRP, this is MMRP site RRAD-006-R-01.	1981
RRAD-69	Bldg. 319 Pipeline	UST Removals and Contaminated Soil, Laidlaw, Jan 1994	1997
RRAD-70	Bldg. 388, Discharge Line (Sink)	RCRA Facility Assessment Building 388, Fort Worth Corps, Dec 1998	1999
RRAD-73	Bldg. 414 Gen Storage Bldg, Dirt Floor	RCRA Facility Investigation Building 414, Parsons, May 2000	1999

IRP No Further Action Sites Summary

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
RRAD-74	Bldg. 411 Annealing Vats under floor	Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site, this is an active site not eligible for IRP	1997
RRAD-76	Bldg. 421 RAD Emitting Sources Present	Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site, this is an active site not eligible for IRP	1996
RRAD-77	Bldg. 431, Radiological Source Present	Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site, this is an active site not eligible for IRP	1996
RRAD-78	Bldg 443 Radiological Source Present	Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site, this is an active site not eligible for IRP	1997
RRAD-81	Ammunition Surveillance Tracer Test Range	NFA because found not eligible for IRP, this is MMRP site RRAD-010-R-01.	1997

Initiation of IRP: 1978

The IRP began at RRAD in March 1978. A study was conducted by the Department of the Army, Office of the Project Manager for Chemical Demilitarization and Installation Restoration, from Aberdeen Proving Ground, Maryland. The PA/SI phase on several sites was initiated in 1978; however, the PA/SI phase on many other sites was initiated at later dates. The Red River Army Depot is a non-NPL Facility.

Past Phase Completion Milestones

1978
IRP PA Initiation, Mar

1989
Closure (RRAD-04),Jul

1990
PA/SI, Installation, Jun

1992
IRA (RRAD-33), Jul
RFI, Clean closure (RRAD-41), Nov
RFI (RRAD-46), Apr

1993
IRA (RRAD-39)
IRA (RRAD-56)
IRA (RRAD-51, 52)
IRA (RRAD-20), Sep
RFI (RRAD-38), Oct
RFI (RRAD-48), Nov
IRA (RRAD-28), Dec

1994
RFI (RRAD-43), Jan
RFI (RRAD-04, 44), Mar
RFI (RRAD-20), Apr
Risk Assessment (RRAD-44, 48), Jun
Risk Assessment (RRAD-43), Jul

1995
Risk Assessment (RRAD-20), Jan
Closure Plan (RRAD-62), Apr
Closure Plan (RRAD-30), Apr
RFI (RRAD-34), Apr

1995 (continued)
RFI (RRAD-35), May
Interim Removal (RRAD-44, 48), Jul
Interim removal (RRAD-06), Aug
Risk Assessment (RRAD-57), Aug
RFI (RRAD-33), Sep
RFI (RRAD-06), Oct

1996
IR 1st Phase (RRAD-30), Mar
Second Phase IRA (RRAD-30), Apr
Risk Assessment (RRAD-35), May

1997
Closure Report IWAP Lagoons, Feb
Closure Report Bldg. 1025, Feb

1998
Soil Background Report, Jun
Groundwater Background Investigation, Sep

1999
Task 1 Report Misc Sites, May
Natural Attenuation Work Plan for WIA, Aug

2000
RFI Bldg 350, May
RFI Bldg 414, May
RFI Bldg 433, May
Natural Attenuation Study WIA, Jun

2001
Natural Attenuation Study, OTC, Jan
Draft Work Plan for APAR for 1313 Landfill, Dec

2002
Draft Work Plan for Soil and Groundwater Investigations Near Building 1025 and 1027,Feb
Comprehensive Sampling and Analysis Plan, May
Final Work Plan for Building 433 Post-RFI, Jun
Draft APAR for Closed Woodyard, Aug
Workplan for APAR Investigation at Building 722, Nov
Supplemental RFI Report for Bldg 414, Nov

2003
Site Investigation Data Report for OTC Landfill, May
Draft Final Affected Property Assessment Report for Building 1027 Area, Jul

2003 (continued)
Draft Final Affected Property Assessment Report for 1313 MSW Landfill, Sep

2004
OTC Landfill Monitored Natural Attenuation Addendum, 2 Feb
IRA Dual Phase Extraction (RRAD-71), Sep

2005
FRA Waste Removal (RRAD-62), Jul

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates: 2009

Projected Construction Completion Date of IRP: 2009

Schedule for Next Five Year Review: NA

Estimated Completion Date of IRP (including LTM phase): Indefinitely

Red River IRP Schedule

(based on current funding constraints)

AEDB-R #	Phase	FY07	FY08	FY09	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
RRAD-35	LTM										203710
RRAD-36	LTM										203710
RRAD-37	LTM										203710
RRAD-43	LTM										203710
RRAD-55	LTM										201809
RRAD-56	LTM										203710
RRAD-60	LTM										203710
RRAD-71	LTM										203710
PBC RED RIVER	CMI(C)										
	CMI(O)										

Prior Years Funds

Total Funding up to FY04: $34,122K (this amount includes BRAC and Active)

FY05 Active Prior Year Funds

Site Information	Expenditures	FY Total
RI, RRAD-04	$ 68K	
LTM, RRAD-28	$ 14K	
RI, RRAD-36	$ 20K	
IRA, RRAD-37	$ 3.8K	
RI, RRAD-37	$ 15K	
RI, RRAD-43	$ 10K	
LTM, RRAD-55	$ 194.72K	
RI, RRAD-60	$ 10K	
RI, RRAD-61	$ 105.96K	
RA(C), RRAD-62	$ 85.27K	
LTM, RRAD-62	$ 13.95K	
RD, RRAD-63	$ 110.05K	
RA(C), PBC Red River	$ 3018.19K	**$3,669K (Active)**

FY05 BRAC Prior Year Funds: **$ 6,975K**

Total Prior Year Funds: **$ 44,766K (Active + BRAC)**

Current Year (FY06) Funds (Active)

Site Information	Expenditures	FY Total
LTM, RRAD-04	$ 164K	
LTM, RRAD-28	$ 14K	
LTM, RRAD-55	$ 16K	
LTM, RRAD-61	$ 79K	
LTM, RRAD-62	$ 4K	
RA(C), PBC Red River	$ 106K	**$ 383K (Active)**

Total Future Requirements: **$5,979K (Active)**

Total IR Program Cost *(from inception to completion of the IRP):* **$ 66,567K (Active + BRAC)**

RED RIVER ARMY DEPOT

Military Munitions Response Program

MMRP Summary

Total AEDB-R MMRP Sites/ AEDB-R Sites with RC: 8/3

AEDB-R Sites Types:
2 Firing Ranges
3 Unexploded Munitions/Ordnance
3 Incinerators

Most Widespread Contaminants of Concern: UXO

Media of Concern: Soil, Groundwater

Completed REM/IRA/RA:
None

Total MMRP Funding

Prior years (up to FY05):	$ 370,000
Current Year (FY06):	$ 7,000
Future Requirements (FY07+):	$ 25,208,000
Total:	$ 25,585,000

Duration of MMRP
Year of MMRP Inception: 2002
Year of MMRP RC: 2013
Year of MMRP Completion Including LTM: 2047

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

Preliminary assessments were conducted for MMRP sites in FY02. Site investigations were conducted from FY02 through FY05.

Field work occurred to determine potential presence of MEC in May 2005. A draft Site Inspection Report was submitted to TCEQ in November 2005.

MMRP Cleanup Exit Strategy

Remedial actions such as UXO removal and soil remediation/removal for each site will be determined at the conclusion of site investigations.

Previous Studies

2001

- US Army Active/Inactive Range Inventory, Red River Army Depot And Camp Stanley, Texas, Aug

2003

- Final Closed, Transferred, and Transferring Range (CTT)/Site Inventory Report, Red River Army Depot, Texas, Camp Stanley Storage Activity, US Army Material Command, e2M Inc, Mar

2004

- Historical Records Review For Other Than Operational Ranges, US Army Corps of Engineers, Omaha District, Aug
- Draft Conceptual Site Model Military Munitions Response Program Site Inspection, Red River Army Depot, Texas, e2M Inc., Dec

2005

- Final Historical Records Review for Other Than Operational Ranges, January
- Draft Site Inspection Report, MMRP, October

RED RIVER ARMY DEPOT

Military Munitions Response Program
Site Descriptions

RRAD-001-R-01
VULCAN RANGE

SITE DESCRIPTION

The Vulcan Test Range is located in the southeast portion of the installation and was used from 1969 until the 1990's. The Vulcan Test Range was used for annual qualifying with small caliber handguns and surveillance testing of 50 caliber machine guns, 7.62 mm, 20 mm, 40 mm rounds, and 155 mm cannons. This range consists of a range fan from the Vulcan Test Range. Maps identifying the firing point and range fans for these munitions were located, but target locations and impact areas were not shown on these maps and are therefore unknown. A portion of the Vulcan Test Range lies in an area that is classified as an operational range. The Vulcan Test Range is 966.406 acres. The Vulcan Test Range is classified as a closed range. Industrial and production facilities are currently located in this former range area.

STATUS

REGULATORY DRIVER: CERCLA

RAC Score: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	200202	200305
SI	200309	200609
RI/FS	200710	200909
RD	201110	201204
RA(C)	201205	201309
LTM	201710	204709

RC DATE: 201309

Lead sample measurements range from 141 to 1930 mg/kg, and TCLP lead sample measurements range from 5.7 to 21.8 mg/kg. Sediment sample detected lead measurements ranging from 251 to 1010 mg/kg.

A change requested in July 2005 to the footprint and size of the inactive Vulcan Range and the adjacent active 25 mm weapons test range was approved by all parties by November 2005.

CLEANUP STRATEGY

A SI was funded in FY03 and will end in FY06. Anticipate remedial investigation, groundwater wells and FS. Assuming removal action to include RD, excavation and off-site transportation and disposal.

OE Site Characterization and removal assessment is programmed. Anticipate OE removal action and monitoring.

RRAD-002-R-01
VULCAN RANGE-TD

SITE DESCRIPTION

The Vulcan Test Range - transferred (TD) is the 135.8 acre section of the original range fan of the Vulcan Test Range that extends past the installation boundary. The Vulcan Test Range was used from 1969 through the 1990s for annual qualifying with small caliber handguns and surveillance testing of 60 caliber machine guns, 7.62 mm, 20 mm, 40 mm rounds, and 155 mm cannons. Maps identifying the firing point and range fans for these munitions were located, but target locations and impact areas were not shown on these maps and are therefore unknown. The Vulcan Test Range - TD is 135.8 acres. Residential housing is currently located in this former range area.

STATUS

REGULATORY DRIVER: CERCLA

RAC Score: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	200202	200305
SI	200309	200609
RI/FS	200710	200909
RD	201110	201204
RA(C)	201205	201309
LTM	201710	204709

RC DATE: 201309

CLEANUP STRATEGY

A SI was funded in FY03 and will end in FY06. Anticipate remedial investigation, groundwater wells and FS. Assuming removal action to include RD, excavation and off-site transportation and disposal.

OE Site Characterization and removal assessment is programmed. Anticipate OE removal action and monitoring.

RRAD-006-R-01
D-AREA Y SITE D060201

SITE DESCRIPTION

Site is a magazine storage area where in 1954 an explosion occurred as a result of an apparent lightning strike. The area was used to store cluster bombs on this Y site. Site is approximately 105 acres. This site is part of the Red River Munitions Center, which is a tenant activity that has been identified for transfer under BRAC 2005.

CLEANUP STRATEGY

A SI was funded in FY03 and will end in FY06. Anticipate remedial investigation, groundwater wells and FS. Assuming removal action to include RD, excavation and off-site transportation and disposal.

OE Site Characterization and removal assessment is programmed. Anticipate OE removal action and monitoring.

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STATUS

REGULATORY DRIVER: CERCLA

RAC Score: 3 – Moderate Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	200202	200305
SI	200309	200609
RI/FS	200710	200909
RD	201110	201204
RA(C)	201205	201309
LTM	201710	204709

RC DATE: 201309

RRAD-007-R-01
GRENADE RANGE

SITE DESCRIPTION

The Grenade Range lies to the southwest of the operational Rifle Range. Exact acreage is not known. RRAD personnel records note it to be approximately 5.4 acres**,** while a 6 November 2003 RRAD memorandum regarding range reclassifications reports the range as being 4.57 acres. According to the Historical Records Review (HRR), the range had been abandoned prior to 1980 with an unknown usage date. The Grenade Range was under construction in 1953 as part of the Ordnance Training Center (OTC) Training Facilities Area in Area Y. This site is also called the Live Grenade Range with "live" referring to the use of High Explosives (HE) as opposed to practice rounds. Aerial photographs of the site dated 1955 and 1960 indicated signs of activity; however, a 1968 aerial photograph shows the range has grown over with vegetation indicating the site is no longer in use. These historical documents and photographs indicate the range was most likely used as early as 1953 and abandoned between 1960 and 1968. The MEC likely associated with this site include MKII and M26 Hand Grenades.

STATUS

REGULATORY DRIVER: CERCLA

RAC Score: 1 – High Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	200202	200305
SI	200309	200609
RI/FS	200710	200909
RD	201110	201204
RA(C)	201205	201309
LTM	201710	204709

RC DATE: 201309

CLEANUP STRATEGY

A SI was funded in FY03 and will end in FY06. Anticipate remedial investigation, groundwater wells and FS. Assuming removal action to include RD, excavation and off-site transportation and disposal.

OE Site Characterization and removal assessment is programmed. Anticipate OE removal action and monitoring.

RRAD-010-R-01 (PAGE 1 OF 2)
TRACER TEST RANGE

SITE DESCRIPTION

The Tracer Test Range, also known as RRAD-81, is located ¼ mile northeast of the rifle range. Based upon the aerial footprint of the range it appears the range is approximately 7 acres in size. The 2001 Active/ Inactive Range Inventory report for RRAD states the range was used from 1956 to 1973. However, a memorandum with an estimated cost for a "Trace Test Range" with drawings existed in July 1958. The 29 July 1958 RRAD memorandum states "a suitable location for the establishment of a trace test range is available at Red River Arsenal and is located south of Lone Star Ordnance Plant." It is uncertain if the range was constructed at that time. In November 1963, drawings were made for the barricade backstop of the Tracer Test Range. It is unclear if the site plan represents a new structure or possibly modifications to an earlier facility. The Tracer Test Range safety fan is depicted on the 1972 Installation Woodland Management Plan. Aerial photographs from 1955 and 1960 show a road leading to the site location; however, the area appears to be wooded. An aerial photograph from 1968 shows the site location had been cleared of vegetation suggesting that the site was in use. The 1978 Installation Assessment refers to the site as "Tracer Bullet Test Range 1940s/1950." The 2001 Active/Inactive Range Inventory report for RRAD classified this range as inactive and referred to it as Range #2172-Tracer Test Range.

STATUS

REGULATORY DRIVER: CERCLA

RAC Score: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	200202	200305
SI	200309	200609
RI/FS	200710	200909
RD	201110	201204
RA(C)	201205	201309
LTM	201710	204709

RC DATE: 201309

In 1996, RRAD personnel collected soil and sediment samples in the Tracer Test Area from the target tunnel and adjacent stream bank and bed. The RRAD laboratory analyzed all samples for total lead, cadmium, and chromium. In addition, the tunnel soil samples were analyzed for total barium (87.9 mg/kg), potassium (160.8 mg/kg), magnesium (204.0 mg/kg), sodium (35.1 mg/kg), strontium (79.6 mg/kg), zinc (57.4 mg/kg), and TCLP lead (17.8 mg/kg). Soil sample measurements of lead range from 3.2 to 1600 mg/kg. In August 2001, a soil sample was collected from the Tracer Test Range by RRAD personnel and analyzed at the RRAD laboratory for explosives. Explosives were not detected in the sample collected.

In May 2005 e2M Inc personnel collected samples a portion of which upon analysis had copper, lead, and antimony above TRRP Tier 1 PCLs and RRAD Installation-Specific Background Levels.

TRACER TEST RANGE

CLEANUP STRATEGY

A SI was funded in FY03 and will end in FY06. Anticipate remedial investigation, groundwater wells and FS. Assuming removal action to include RD, excavation and off-site transportation and disposal.

OE Site Characterization and removal assessment is programmed. Anticipate OE removal action and monitoring.

MMRP No Further Action Summary

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
RRAD-003-R-01	Popping Furnace Bldg. 722	Covered under IRP site RRAD-62	200305
RRAD-004-R-01	Popping Furnace Bldg. 1027	Covered under IRP site RRAD-63	200305
RRAD-005-R-01	Popping Furnace Bldg. 1025	Covered under IRP site RRAD-63	200305

MMRP Schedule

Initiation of MMRP: 2002

Past Phase Completion Milestones

2003
PA CTT Inventory, April

2005
Draft Site Inspection Report, Jan

Projected ROD/DD Approval Dates: 2013

Projected Construction Completion: 2013

Schedule for Five Year Reviews: To be determined

Estimated Completion Date of MMRP including LTM: 2047

Red River MMRP Schedule

(based on required funding)

AEDB-R#	Phase	FY07	FY08	FY09	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
RRAD-001-R-01	RI/FS										
	RD										
	RA(C)										
	LTM										204709
RRAD-002-R-01	RI/FS										
	RD										
	RA(C)										
	LTM										204709
RRAD-006-R-01	RI/FS										
	RD										
	RA(C)										
	LTM										204709
RRAD-007-R-01	RI/FS										
	RD										
	RA(C)										
	LTM										204709
RRAD-010-R-01	RI/FS										
	RD										
	RA(C)										
	LTM										204709

Prior Years Funds

Total Funding up to FY04: $342,000

FY05 MMRP Prior Year Funds

Site Information	Expenditures	FY Total
SI	$28,000	**$28,000**

Total Prior Year Funds: **$370,000**

Current Year (FY06) Requirements

Site Information	Expenditures	FY Total
SI	$7,000	**$7,000**

Total Future Requirements: **$25,208,000**

Total MMR Program Cost *(from inception to completion of the IRP):* **$25,585,000**

RED RIVER ARMY DEPOT

Installation Restoration Program
BRAC

Transfer Summary

Total Installation Acres: 19,081
BRAC IV Acres: 103 remaining

Parcel Name: Tracts 5B, 6A, 6B, 6C, 6D, 8, 10, 12, 13
Recipient organization: Red River Redevelopment Authority
Acres: 19
Transfer strategy: Transfer outside of Federal Government
Current land use: Residential & Industrial
Future land use: Residential & Industrial
Transfer date: 30 Jun 06
AEDB-R Sites associated with parcel: RRAD-65, 68, 85, 86, 90, 93, 94

Parcel Name: IWTP Parcel
Recipient organization: Red River Redevelopment Authority
Acres: 11
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 31 Aug 07
AEDB-R Sites associated with parcel: RRAD-96

Parcel Name: Sewer Treatment Plant Parcel
Recipient organization: Red River Redevelopment Authority
Acres: 7
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 31 Dec 07
AEDB-R Sites associated with parcel: RRAD-95

Parcel Name: Tract 1B
Recipient organization: Red River Redevelopment Authority
Acres: 12
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 31 Oct 08
AEDB-R Sites associated with parcel: RRAD-34

Parcel Name: Tract 2
Recipient organization: Red River Redevelopment Authority
Acres: 14
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 31 Oct 08
AEDB-R Sites associated with parcel: RRAD-33, RRAD-34

Parcel Name: Tract 3A
Recipient organization: Red River Redevelopment Authority
Acres: 13
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 30 Sep 06
AEDB-R Sites associated with parcel: RRAD-58

Parcel Name: Tract 3B
Recipient organization: Red River Redevelopment Authority
Acres: 18
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 31 Oct 08
AEDB-R Sites associated with parcel: RRAD-44, RRAD-33

Parcel Name: Tract 5A, 5C
Recipient organization: Red River Redevelopment Authority
Acres: 6
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 30 Sep 06
AEDB-R Sites associated with parcel: RRAD-20

Parcel Name: Tract 9
Recipient organization: Red River Redevelopment Authority
Acres: 3
Transfer strategy: Transfer outside of Federal Government
Current land use: Industrial
Future land use: Industrial
Transfer date: 30 Sep 06
AEDB-R Sites associated with parcel: RRAD-64

Cleanup Exit Strategy

Get RI approved, remediate to industrial standards and begin monitoring. See cleanup strategy for site specifics.

Previous Studies

1995

- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation For Building #333, Red River Army Depot, Apr
- US Army Corps of Engineers, Fort Worth District, RCRA Corrective Measure Study, Work Plan-Draft, WWT Area/Panther Creek, Red River Army Depot, May 5
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation, Building #348, Red River Army Depot, Sep
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation for SWMU-Building #348, Red River Army Depot, Sep

1996

- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation-Hayes Plant, Red River Army Depot, Mar
- US Army Corps of Engineers, BRAC Cleanup Plan Version 1 Workbook, May
- US Army Corps Of Engineers, Scope Of Work–Industrial Waste Water Treatment Lagoons, Red River Army Depot, Nov
- US Army Corps of Engineers, BRAC 95 Program- Environmental Baseline Survey, Final Report, Red River Army Depot, Dec 18
- US Army Corps of Engineers, Red River Army Depot, Updated CERCLA Letter Report (inside BRAC 95 Program Binder), Dec 6

1997

- US Army Corps of Engineers, Fort Worth District, Closure Report for Industrial Wastewater Treatment Lagoons, Building #356, Red River Army Depot, Jan/Feb
- US Army Corps of Engineers, Fort Worth District, Final Closure Plan for Industrial Wastewater Treatment Lagoons, Red River Army Depot, Apr
- US Army Corps of Engineers, Fort Worth District, Closure Report for the Industrial and Final Industrial Wastewater Treatment Lagoons, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Task 1 Report for Western Industrial Area, Volume # I, Red River Army Depot, Nov

1998

- US Army Corps of Engineers, Fort Worth District, BRAC 95 Program, Supplemental Final-Environmental Baseline Survey Report – Final, Feb 5
- US Army Corps of Engineers, Fort Worth District, Consolidated Footprint-RCRA Facility Assessment, Red River Army Depot, Mar
- US Army Corps of Engineers, Final Task 1 Report for the Western Industrial Area, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Soil Background Investigation Report, Red River Army Depot, Jun
- US Army Corps of Engineers, Fort Worth District, Draft- Sampling and Analysis Plan For the Western Industrial Area, Red River Army Depot, Jun
- US Army Corps of Engineers, Fort Worth District, Supplemental Consolidated Footprint-RCRA Facility Assessment, Red River Army Depot, Jul

1998 *continued*

- US Army Corps of Engineers, Fort Worth District, Sampling And Analysis Plan for the Western Industrial Area, Red River Army Depot, Jul
- US Army Corps of Engineers, Fort Worth District, Task 1 Report for Pesticide Pit Area, Red River Army Depot, Sep
- US Army Base Realignment And Closure (BRAC), '95 Program Brac Cleanup Plan Report, Version II Draft Report, Oct
- US Army Corps of Engineers, Fort Worth District, Sampling And Analysis Plan Draft for The Pesticide Pit, Red River Army Depot No Date

1999

- US Army Corps of Engineers, Consolidated Footprint, RCRA Facility Assessment For Buildings #172, and #334A, Ditch Between the Motor Pool and the Lumber Yard and X-1 Sewage Treatment Plant, Red River Army Depot, Feb
- US Army Corps of Engineers, Fort Worth District, Lead- Based Paint Inspection, Military Housing, Buildings # 10, 20, 28, and 30, Red River Army Depot, Feb
- US Army Corps of Engineers, Fort Worth District, Final Site Specific Health and Safety Plan Excavation of Pesticide Soils, Red River Army Depot, Mar 19
- US Army Corps of Engineers, Fort Worth District, Draft–Data Summary Report for the Western Industrial Area and Pesticide Pit Sites, Vol. # I -Report, Vol. # II–Appendices, and Vol. # III – Analytical Data, Red River Army Depot, Mar
- US Army Corp of Engineers, Fort Worth District, Final Task I Report for Miscellaneous Sites, Red River Army Depot, May
- US Corps of Engineers, Fort Worth District, Technical Review of the Economic Development Conveyance, Red River Army Depot, Jun
- US Army Corps Of Engineers, Fort Worth District, RCRA Facility Assessment, Advanced Consolidated Footprint, Volumes # I & # II, Red River Army Depot, Jul
- US Army Corps Of Engineers, Fort Worth District, Natural Attenuation Study Work Plan for the Western Industrial Area (WIA), Red River Army Depot, Aug
- US Army Corps of Engineers, Fort Worth District, Draft- Technical Approach Document for Risk Assessment, Western Industrial Area (WIA), Red River Army Depot, Aug
- US Army Corps of Engineers, Fort Worth District, Panther Creek Hydrology Study, Monthly Report for July 1999, Red River Army Depot, Aug
- US Army Corps of Engineers, Fort Worth District, Data Summary Report for Western Industrial Area and Pesticide Pit, Volume #1-Report, Red River Army Depot, Aug
- US Army Corps of Engineers, Fort Worth District, Final Soil Background Investigation, Red River Army Depot, Aug

2000

- US Army Corps of Engineers, Fort Worth District, Panther Creek Hydrology Study, Monthly Reports for October 1999, Red River Army Depot, Jan
- US Army Corps of Engineers, Fort Worth District, Internal Draft-Affected Property Assessment Report (APAR) for the Western Industrial Area, Red River Army Depot, Jan

2000 (*continued)*

- US Army Corps of Engineers, Fort Worth District, Draft– Affected Property Assessment Report (APAR) for the Western Industrial Area (WIA), Red River Army Depot, Feb
- US Army Corps of Engineers, Fort Worth District, Work Plan (Draft) for the X-1 Sewage Treatment Plant, Red River Army Depot/Lone Star Army Ammunition Plant, Feb
- US Army Corps of Engineers, Fort Worth District, Internal Draft Affected Property Assessment Report (APAR) for the Hays Plant Area, Red River Army Depot, Feb
- US Army Corps of Engineers, Fort Worth District, Work Plan For the X-1 Sewage Treatment Plant, Red River Army Depot/ Lone Star Army Ammunition Plant, Mar
- US Army Corps of Engineers, Fort Worth District, Final Site Safety and Health Plan for X-1 Sewage Treatment Plant, Red River Army Depot/Lone Star Army Ammunition Plant, Mar
- US Army Corps of Engineers, Fort Worth District, Final–Data Summary Report for Miscellaneous Sites, Red River Army Depot, Apr
- US Army Corps of Engineers, Final Background Characterization of Groundwater Investigation Report, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Field Report, Volume I-Text & Appendices-A-N For Excavation of Contaminated Soil at the Water Tower, Red River Army Depot, May
- US Army Corps of Engineers, Fort Worth District, Data Summary Report for Miscellaneous Sites, Volume # 1, Red River Army Depot, Jun
- US Army Corps of Engineers, Fort Worth District, Data Summary Report for Miscellaneous Sites, Volume # II, Analytical Data and Data Validation Report, Red River Army Depot, Jun
- US Army Corps of Engineers, Fort Worth District, Natural Attenuation Study, Western Industrial Area (WIA), Red River Army Depot, Jun
- US Army Corps of Engineers, Fort Worth District, Closure Report for Excavation of Contaminated Soil at the Water Tower, Red River Army Depot, Jun
- US Army Corps of Engineers, Fort Worth District, Draft Final– Corrective Measures Study for the Western Industrial Area (WIA), Red River Army Depot, Sep
- US Army Corps Of Engineers, Fort Worth District, Remediation Report for Building #265 and Adjacent Storm Water Ditches, Red River Army Depot, Sep
- US Army Corps Of Engineers, Fort Worth District, Revised Draft–Affected-Property Assessment Report (APAR) for the Western Industrial Area (WIA), Red River Army Depot, Sep
- US Army Corps of Engineers, Fort Worth District, RCRA Facility Investigation Report for X-1 Sewage Treatment Plant, Red River Army Depot, Oct
- US Army Corps of Engineers, Fort Worth District, Panther Creek Hydrology Study, Monthly Report For April 1999, Red River Army Depot, Oct

2000 (*continued)*

- US Army Corps of Engineers, Fort Worth District, Demolition Plan Spill Control for Underground Storage Tank, Adjacent To Building #334A and North & South Storm Water Underground Impoundments, Red River Army Depot, Nov 7
- US Army Corps of Engineers, Fort Worth District, Environmental Protection Plan–Spill Control Underground Storage Tank Adjacent To Building #334A And North & South Storm Water Underground Impoundments, Red River Army Depot, Nov 7
- US Army Corps of Engineers, Fort Worth District, Revised Draft RCRA Facility Assessment for Buildings #163 and 166, Red River Army Depot, Dec

2001

- US Army Corps of Engineers, Fort Worth District, Summary of Field Activities, Western Industrial Area, Hays Plant Additional Cluster Well, Jan/ Feb 2001 Installation, Red River Army Depot, Feb
- US Army Corps of Engineers, Fort Worth District, Findings of Suitability to Transfer Buildings #133, 150, 154, 167, 184, 281, 286, 290, the Water Tower, the Directorate of Public Works, Storage Yard and Housing Area, Buildings #10, 20, 28, & 30, Red River Army Depot, Mar
- US Army Corps of Engineers, Fort Worth District, Draft-Work Plan for X-1 Sewage Treatment Plant, Post RFI Investigation, Red River Army Depot/Lone Star Army Ammunition Plant, Nov
- US Army Corps of Engineers, Fort Worth District, Draft-Site Safety and Health Plan for Industrial Wastewater Treatment Plant, Red River Army Depot, Nov
- US Army Corps of Engineers, Fort Worth District, Final Site Safety and Health Plan for Post RFI Investigation at X-1 Sewage Treatment Plant, Red River Army Depot/Lone Star Army Ammunition Plant, Nov
- US Army Corps Of Engineers, Fort Worth District, Summary Of Field Activities-Western Industrial Area, Hays Plant, And Additional Cluster Well Installation for Aug-Nov 2001, Red River Army Depot, Nov
- US Army Corps of Engineers, Waterways Experiment Station, Vicksburg Mississippi, Draft Development and Application of a Groundwater Flow Model for the Red River Army Depot, Texas, Nov

2002

- US Army Corps of Engineers, Fort Worth District, Final Work Plan for X-1 Sewage Treatment Plant Post RFI Investigation, Red River Army Depot/Lone Star Army Ammunition Plant, Jan
- US Army Corps of Engineers, Fort Worth District, Field Report, Volume # I-Text and Appendices A-M for Building #265 and Adjacent Storm Water Ditches, Red River Army Depot, No Date

2003

- Newfields/ BBL, BRAC/DERA Western Industrial Area Strategic Plan, Red River Army Depot, Feb

2003 (*continued)*

- US Army Corps of Engineers, Fort Worth District, Response Action Completion Report (2 Volumes) North and South Stormwater Lagoons and UST at Building 334A , May
- Response Action Completion Report for North and South Stormwater Lagoons, May
- Draft Development and Application of Groundwater Flow and Transport Models for the Red River Army Depot, Texas, Engineer Research and Development Center, Waterways Experiment Station, Vicksburg, Mississippi, Jul
- Final Data Quality Objectives for the X-1 Sewage Treatment Plant Post RCRA Facility Investigation, Sep
- Draft Storm Sewer Repair Report, Oct
- Draft Chromate Sewer Repair Report, Oct

2004

- Technical Specifications, Closure of Chrome Sludge Drying Beds, Jan
- Sampling and Analysis Plan Chrome Drying Beds/Hays Pland Sludge Bed Closures, Feb

- Work Plan Chrome Drying Beds/Hays Plant Sludge Bed Closures, Mar
- Building 172 Release Investigation Report, Mar
- Industrial Wastewater Treatment Plant Release Investigation Report, Apr
- Final Affected Property Assessment Report for Hays Plant, Apr
- Final Storm Sewer Repair Report, Apr
- Final Chromate Sewer Repair Report, Apr
- Finding of Suitability to Transfer Tract 1A, May
- Draft Final Affected Property Assessment Report for the Western Industrial Area and Panther Creek, Oct
- Evaluation of Response Actions for the Western Industrial Area, Oct
- Response Action Completion Report for the Chrome Drying Beds, Nov
- Response Action Completion Report for the Hays Batch Plant and Sewer Treatment Beds, Nov

2005

- Draft Final Affected Property Assessment Report, X-1 Sewage Treatment Plant, Feb
- Draft Final Response Action Plan for the X-1 Sewage Treatment Plant, Feb
- Draft Surface Soil Investigation Data Quality Objectives for the Industrial Waste Treatment Plant, Mar
- Draft Data Quality Objectives for Sediment Sampling in Panther Creek, Mar

RED RIVER ARMY DEPOT

BRAC
Parcel & Site Descriptions

RRAD-008-R-01
NW SURVEILLANCE FUNCTION TEST RANGE

SITE DESCRIPTION

The Northwest Surveillance Function Test Range, also known as RRAD-10, is located in the northwest corner of the installation. This area is approximately 20 acres in size. This site is believed to have been used between 1953 and 1960. The first clear evidence of its existence is a 1954 Standard Operating Procedure (SOP) for function testing of "simulator, hand grenade, M116" at the A-area Test Site. Two 1972 site plans do not indicate any facility at the location of the Northwest Surveillance Function Test Range. A 1968 aerial photograph of the site shows the road leading into the site is overgrown with vegetation compared to aerial photographs from 1955 and 1960 that clearly show the road. This aerial photographic evidence indicates the site was no longer in use by 1968.

RRAD personnel conducted a MC investigation on 24 April 1996. The site was inspected for obvious signs of MEC and munitions activities. During the visit a large mound of sand, approximately 15 feet by 30 feet in size, was encountered in the north-central quadrant of the site. Potential MEC (a signal flare) was observed in the sand mound and one soil grab sample was collected from the 0 to 4 inch below ground surface (bgs) interval. The RRAD laboratory analyzed the sample for total chromium (15.1. mg/kg), cadmium (0.2 mg/kg) and lead (11.6 mg/kg). According to the HRR, the following MEC are associated with this site: Cartridge, Photoflash XM185, 2-second delay, Grenade Launcher Ground Signal, Hand Held Position Marker PM-4, Land mines, pyrotechnics, Grenade Fuzes, Hand Grenade, Hand, Trip Flares, Anti-Personnel Mine.

STATUS

REGULATORY DRIVER: CERCLA

RAC Score: 3 – Moderate Risk

CONTAMINANTS OF CONCERN:
UXO

PROGRAM: BRAC V MR

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	200202	200305
SI	200309	200609
RI/FS	200710	200909
RD	201210	201304
RA(C)	201305	201409
LTM	201710	204709

RC DATE: 201409

CLEANUP STRATEGY

A SI was funded in FY03 and will end in FY06. Anticipate remedial investigation, groundwater wells and FS. Assuming removal action to include RD, excavation and off-site transportation and disposal.

OE Site Characterization and removal assessment is programmed. Anticipate OE removal action and monitoring.

RRAD-009-R-01 (PAGE 1 OF 2)
SW SURVEILLANCE FUNCTION TEST RANGE

SITE DESCRIPTION

The Southwest Surveillance Function Test Range, also known as RRAD-09, is located in the southwest portion of the installation. While the exact acreage is unknown, some sources state the site to be 104 acres in size, while other sources report the size as 40 to 102 acres. The HRR states based on the 1978 Installation Assessment, the range was used between 1948 and 1960. However, the HRR also states the first clear evidence of existence of the range is shown on a 1972 update of a 1959 map. The footprint of the site is also depicted on an installation 1972 Woodland Management Plan map as the Ammo Test Facility. In addition, a similar sized and shaped parcel labeled as the Surveillance Test Area is depicted on a 1972 Real Property Survey map. A 1968 aerial photograph of the area clearly shows the site and Site Plans from 1961 and 1966 suggest the site was still being used after 1960.

STATUS

REGULATORY DRIVER: CERCLA

RAC Score: 2 – Serious Risk

PROGRAM: BRAC V MR

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
PA	200202	200305
SI	200309	200609
RI/FS	200710	200909
RD	201210	201304
RA(C)	201305	201409
LTM	201710	204709

RC DATE: 201409

The 2001 Active/Inactive Range Inventory report for RRAD classified this range as inactive and referred to it as Range #2167 - SW Surveillance Function Test Range. The report noted the range was used between 1948 and 1984 and there have been no releases at this site since 30 September 2002. According to a May 1996 RRAD site visit, there appears to be two areas on the site where ammunition items were function tested: the mine/grenade stand and the flare/signal stand. The mine grenade stand area is located in the northern section of the site and is comprised of a bunker and a buried pipe with a firing apparatus leading to a test stand. In addition, there is a 2 to 3 foot deep trench that is 60 feet in length and 4 feet in depth located 60 feet east of this area. The flare/signal stand area is located in the center of the site and is comprised of a concrete pad that is 40 feet by 75 feet in area. An open-sided roof structure is located over the west end of the pad. A test stand is presently located north of the old test stand. In addition, apparatus is located in the center of the pad that was used to attach test stands. Across the access road from the flare/signal stand is a storage shed numbered 850.

In May 1996, RRAD analyzed soil samples for total chromium (32.9 mg/kg), cadmium (2.8 mg/kg), and lead (234 mg/kg). These samples were collected from the four corners of the concrete pad. In May 2005, e2M Inc personnel collected 10 surface soil samples, and no MC chemicals of concern were detected above TRRP Tier 1 PCLs or RRAD Installation Specific Background Levels.

SW SURVEILLANCE FUNCTION TEST RANGE

In addition, during the site visit six hand grenades, possibly inert by appearance, and one hand grenade fuze was found in the storage shed located on the site. According to the HRR and based on the 1996 site visit, the following MEC are associated with this site: Rifle Grenades, Hand Grenades, Grenades Fuzes, Position Markers, Trip Flares, Pyrotechnics and Mines.

CLEANUP STRATEGY

A SI was funded in FY03 and will end in FY06. Anticipate remedial investigation, groundwater wells and FS. Assuming removal action to include RD, excavation and off-site transportation and disposal.

OE Site Characterization and removal assessment is programmed. Anticipate OE removal action and monitoring.

RRAD-04
OTC BURIAL SITE

SITE DESCRIPTION

The Ordnance Training Center (OTC) Landfill is located on the northwest portion of the depot. Big Creek flows on the west side of the site, however no contamination has been found in the creek. From 1942 to ~1982, there were several different uses for this site. It was a Sewage Treatment Plant, an Industrial Waste Batch Treatment Plant, a drum storage area, and finally a landfill.

From 1977-82, four burial sites received containerized compounds including solvents, pentachlorophenol, and heavy metals. Closure of this RCRA-regulated unit was accomplished by installing a RCRA cap over the entire site in 1985.

VOCs have been released to the groundwater at the site. 1,1-DCE, 1,1,1-trichloroethane and TCE have been detected in groundwater.

The Army has reviewed the analytical data to support MNA. A draft corrective measures implementation plan for a PMZ was first submitted to TCEQ in November 2004.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Medium

PROGRAM: BRAC V IRP

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
RFA	197803	197807
CS	198105	198105
RFI	199902	200509
LTM	200512	203512

RC DATE: 200509

CLEANUP STRATEGY

Permit modification was submitted in late FY05 to implement a PMZ RCRA-corrective action program and RRAD is currently awaiting approval by TCEQ. Groundwater samples are being collected for VOCs. RRAD is waiting approval for the PMZ and the monitoring well network. LTM will continue indefinitely. LUC are required for this site to restrict groundwater use and digging.

RRAD-33
FORMER BLDG. 348

SITE DESCRIPTION

Building 348 was the site of former cleaning and electroplating operations with floor level TCE and TCA vats. In 1992, the building was demolished and the soil was excavated four feet deep during construction of building 333. Operations here are believed to have contributed to the contaminated groundwater plume in the area. An RFI was completed in 1995 found chlorinated solvents in the soil and groundwater. This site is included in the WIA APAR, which was submitted in November 2004.

CLEANUP STRATEGY

This site will be part of the proposed WIA PMZ.

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015.

Requirements for the CMI(C) were funded in FY05 under AEDB-R site PBC Red River. The CMI(O) will be funded under the AEDB-R site BRAC_PBC_ RRAD.

LTM costs will be funded under this site.

STATUS

REGULATORY DRIVER: RCRA

RRSE: High

PROGRAM: BRAC IV IRP

CONTAMINANTS OF CONCERN:
VOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	198711	198803
CS	198803	199504
RFI/CMS	199508	200604
IRA	199204	199301
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203709

RIP DATE: 200709
RC DATE: 201509

RRAD-34
SOIL UNDERLYING BLDG. 333

SITE DESCRIPTION

Building 333 was built over former storm water ditches that were removed/ rerouted during construction. These ditches discharge into Panther Creek. These ditches were contaminated with TCE, which led to the contamination of the groundwater. An RFI was completed in 1995 found chlorinated solvents in the soil and groundwater. This site is included in the WIA APAR, which was submitted in November 2004.

CLEANUP STRATEGY

This site will be part of the proposed WIA PMZ.

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015.

Installation of reactive barrier walls is anticipated.

Requirements for the CMI(C) were funded in FY05 under AEDB-R site PBC Red River. The CMI(O) will be funded under the AEDB-R site BRAC_PBC_ RRAD.

LTM costs will be funded under this site.

STATUS

REGULATORY DRIVER: RCRA

RRSE: High

PROGRAM: BRAC IV IRP

CONTAMINANTS OF CONCERN:
VOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	199301	199302
CS	199303	199504
RFI/CMS	199508	200604
IRA	199903	199906
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203709

RIP DATE: 200709
RC DATE: 201509

RRAD-44
PANTHER CREEK

SITE DESCRIPTION

Panther Creek receives storm water runoff from the Maintenance area and effluent from the IWTP. Panther Creek has been impacted by previous maintenance activities throughout and beyond the WIA. In 1992, an RFI was performed and indicated metals and VOCs above ecological action levels in sediment in some locations. VOCs found in the surface water below action levels but may be affecting ground water off-site. TCE action level for onsite ground water is 500 ug/L and 5 ug/L off-site. A project was completed which repaired breaks in the storm sewer system using Cured In Place Piping to eliminate the infiltration of contaminated groundwater into the storm sewers.

STATUS

REGULATORY DRIVER: RCRA

RRSE: High

PROGRAM: BRAC IV IRP

CONTAMINANTS OF CONCERN: VOCs, Metals, SVOCs

MEDIA OF CONCERN: Sediment, Groundwater, Surface Water

Phases	Start	End
RFA	198606	198701
CS	198606	199204
RFI/CMS	199308	200604
IRA	199410	199509
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203709

RIP DATE: 200709
RC DATE: 201509

CLEANUP STRATEGY

This site will be part of the proposed WIA PMZ.

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015.

Sediment removal is anticipated.

Requirements for the CMI(C) were funded in FY05 under AEDB-R site PBC Red River. The CMI(O) will be funded under the AEDB-R site BRAC_PBC_ RRAD.

LTM costs will be funded under this site.

RRAD-48
WASTE WATER TREATMENT (WWT) AREA

SITE DESCRIPTION

This area is the site of two former storm water lagoons which were remediated by stabilizing contaminated sludge (metal and VOCs) in place then removing and backfilling with clean soil in 2002. In 2003, Response Action Completion Report (RACR) was approved by the State for these lagoons. In 1994, storm water ditches to the north and south of these lagoons were remediated by removing five feet of soil and replacing it with clean fill and concrete.

CLEANUP STRATEGY

This site will be part of the proposed WIA PMZ.

A PBC was awarded in August 2005 to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015.

Requirements for the CMI(C) were funded in FY05 under AEDB-R site PBC Red River. The CMI(O) will be funded under the AEDB-R site BRAC_PBC_ RRAD.

LTM costs will be funded under this site.

STATUS

REGULATORY DRIVER: RCRA

RRSE: High

PROGRAM: BRAC IV IRP

CONTAMINANTS OF CONCERN:
VOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment

Phases	Start	End
RFA	198606	198701
CS	198606	198701
RFI/CMS	199008	200604
DES	200503	200605
IRA	199505	200212
CMI(C)	200508	200709
CMI(O)	200508	201509
LTM	201510	203709

RIP DATE: 200709
RC DATE: 201509

RRAD-95
X-1 SEWER TREATMENT PLANT

SITE DESCRIPTION

This is the site of a domestic sewer plant previously owned, operated and maintained by RRAD - located in area "X" on Lone Star Army Ammunition Plant (LSAAP). The plant treats domestic waste from RRAD as well as domestic and industrial waste water from LSAAP. The facilities and equipment have been transferred to the Red River Redevelopment Authority (RRRA) through bill of sale and the plant is now operated by URS Corp. An RFA was performed which indicated a release occurred. Metals were found in the soil, ditch sediments and in the groundwater. A pump test was performed which indicated the ground water was Class 3. Perchlorates were initially found in the soil and ground water however, subsequent sampling revealed no detections.

An APAR and RAP was submitted Spring 2005. TCEQ had concerns about the Class Three designation. A Pump test to resolve the groundwater classification is required.

STATUS

REGULATORYDRIVER: RCRA

RRSE: Low

PROGRAM: BRAC IV IRP

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediments

Phases	Start	End
RFA	199705	199705
CS	199705	199802
RFI/CMS	199806	200410
DES	200111	200410
CMI(C)	200509	200709
LTM	200710	203609

RC DATE: 200709

CLEANUP STRATEGY

A response action requiring the removal of soil is anticipated. The thirty years of LTM assumes Class 2 Groundwater Designation.

RRAD-96
INDUSTRIAL WASTE TREATMENT PLANT

SITE DESCRIPTION

Property was transferred to the RRRA through LIFOC. Facilities and equipment have been transferred to the RRRA through bill of sale and the plant is now operated by URS Corp. Previous interim remedial actions at this site include removal of the Chromate Drying Beds, the intermediate and the final lagoons in accordance with the Texas Risk Reduction Rules. An RFA was performed with confirmatory sampling, which indicated that metals were present above background but below action levels. A Release Investigation Report was submitted. The State commented that deeper samples are required.

Soil sampling was completed May 2005. Metals contamination was detected; however, all samples were below industrial limits.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

PROGRAM: BRAC IV IRP

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
RFA	199709	199709
CS	199710	199802
RFI/CMS	199810	200606
IRA	200307	200410

RC DATE: 200609

CLEANUP STRATEGY

Produce an APAR. No further action is anticipated. All costs funded in prior years.

BRAC_PBC_RRAD PBC

SITE DESCRIPTION

This site was created to address funding information for the PBC for Iowa AAP.

This PBC includes BRAC-95 sites: RRAD-33, RRAD-34, RRAD-44, RRAD-48, RRAD-52.

STATUS

REGULATORY DRIVER: RCRA

RRSE: High

PROGRAM: BRAC IV IRP

CONTAMINANTS OF CONCERN:
NA

MEDIA OF CONCERN:
NA

Phases	Start	End
RFA	200009	200109
CMI(C)	200508	200709
RFI/CMS	200709	201509

RC DATE: 201509

BRAC No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
RRAD-20	Pesticide Storage	All required cleanup completed. Approved by TCEQ in a letter dated 9 Nov 2004.	200411
RRAD-51	Former UST (Bldg 162)	All required cleanup completed. Approved by TCEQ in a letter dated 9 Jul 1996.	199607
RRAD-52	Former UST Bldg 333	Study Completed, No Cleanup Required	200008
RRAD-58	Hays (Former) Batch Treatment Plant Area	All required cleanup completed. Approved by TCEQ in a letter dated 14 Mar 2005.	200503
RRAD-64	Bldg 172, Diesel Transfer Station	Study completed, no cleanup required. Approved by TCEQ in a letter dated 2 Jul 2004.	200407
RRAD-65	Bldg 163, Vehicle Wash Rack	All required cleanup completed. Approved by TCEQ in a letter dated 11 Jul 2001.	200106
RRAD-66	Bldg 713, Golf Maintenance Area	Study completed, no cleanup required. Approved by TCEQ in a letter dated 27 Jul 1999.	199909
RRAD-67	Bldg 113, Lift Station	Study completed, no cleanup required. Approved by TCEQ in a letter dated 9 Jul 1998.	199807
RRAD-68	Bldg 167, Vehicle Storage Shed	Study Completed, No Cleanup Required. Approved by TCEQ in a letter dated 19 Oct 1999.	200003
RRAD-72	Bldg 168, Auto Mechanics POL Storage	Study completed, no cleanup required. Approved by TCEQ in a letter dated Jul 2000.	200007
RRAD-79	Comp Bldg 161 LBP Project	No cleanup required. LRA notified of LBP and building transferred as is.	199703
RRAD-82	General Storage Lots	All required cleanup completed. Approved by TCEQ in a letter dated 26 Aug 1999.	199909
RRAD-85	Building 150	Study completed, no cleanup required as indicated in response to comments to TCEQ letter dated 29 Mar 2000. RA of adjacent ditch performed under RRAD-20 response action.	199904
RRAD-86	Building 166	All required cleanup completed. Approved by TCEQ in a letter dated 11 Jun 2001.	200106
RRAD-88	Building 281	Study completed, no cleanup required. Approved by TCEQ in a letter dated 19	200001

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
		Oct 1999.	
RRAD-89	Building 286	Study completed, no cleanup required. Approved by TCEQ in a letter dated 19 Oct 1999.	200001
RRAD-90	Building 290	Study completed, no cleanup required. Approved by TCEQ in a letter dated 19 Oct 1999.	200001
RRAD-91	Building 726	Study Completed, No Cleanup required. Approved by TCEQ in a letter dated 27 Jul 1999.	199909
RRAD-92	Motor Pool Drainage Ditch	All required cleanup completed. Approved by TCEQ in a letter dated 9 Jul 1996.	200009
RRAD-93	Water Tower	All required cleanup completed. Approved by TCEQ in a letter dated December 16, 2002.	200009
RRAD-94	DPW Storage	Study completed, no cleanup required. Approved by TCEQ in a letter dated 19 Oct 1999.	200005

BRAC Schedule

Initiation of BRAC: 1986

Past Phase Completion Milestones

1992
- IRA (RRAD-33), Jul

1993
- IRA (RRAD-51, 52)
- IRA (RRAD-20), Sep
- RFI (RRAD-48), Nov

1994
- RFI (RRAD-04, 44), Mar
- RFI (RRAD-20), Apr
- Risk Assessment (RRAD-44, 48), Jun

1995
- Risk Assessment (RRAD-20), Jan
- RFI (RRAD-34), Apr
- Interim Removal (RRAD-44, 48), Jul
- RFI (RRAD-33), Sep

1997
- Closure Report IWTP Lagoons, Feb

1999
- Natural Attenuation Work Plan for WIA, Aug

2000
- Natural Attenuation Study WIA, Jun

2001
- BRAC Suitability to Transfer Documents, Mar
- Draft Work Plan for Post RFI Investigation of X-1 Sewage Plant, Nov

2003
- Remedial Action for North and South Stormwater Lagoons, May
- Draft Storm Sewer Repair Report, Oct
- Draft Chromate Sewer Repair Report, Oct

2004
- Final Affected Property Assessment Report for Hays Plant, Apr
- Building 172 Release Investigation Report, Mar
- Industrial Wastewater Treatment Plant Release Investigation Report, Apr
- Chromate Sewer Repair Field Report, Apr

2004 (*continued)*

- Storm Sewer Repair Field Report, Apr
- Final Affected Property Assessment Report for the Hays Plant Area, Apr
- Response Action Completion Report for the Chrome Drying Beds, Sep
- Response Action Completion Report for the Hays Batch Plant and Sewer Treatment Plant, Sep
- Draft Final Affected Property Assessment Report for the Western Industrial Area and Panther Creek, Oct
- Internal Draft Affected Property Assessment Report for the X-1 Sewage Treatment Plant, Nov
- Internal Draft Response Action Plan for the X-1 Sewage Treatment Plant, Dec

2005

- Draft Final Affected Property Assessment Report for the X-1 Sewage Treatment Plant, Feb
- Draft Final Response Action Plan for the X-1 Sewage Treatment Plant, Feb
- Finding of Suitability to Transfer (FOST) Tracts 5B, 6A, 6B, 6C, 8, 10, 12, 13, Oct.
- Finding of Suitability to Transfer (FOST) Tracts 3A, 5A, 5C & 9, Dec.
- Memorandum of Agreement for Historical Properties, Sep.
- Achieved Case Closure for Leaking Petroleum Storage Tank for RRAD-52.

Projected ROD/DD Approval Dates: 2006

Projected Construction Completion of BRAC: 2014

Schedule for Next Five Year Review: *N/A*

Estimated Completion Date of BRAC (including LTM phase): Indefinite

General Natural and Cultural Resources Program and Other Cleanup Issues Schedule: Sign Historical Memorandum of Agreement (MOA) for buildings 150, 154 and 166 by Sep 2006.

Red River BRAC Schedule

(based on current funding constraints)

AEDB-R #	Phase	FY07	FY08	FY09	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
RRAD-008-R-01*	RI/FS										
	RD										
	RA(C)										
	LTM										204709
RRAD-009-R-01*	RI/FS										
	RD										
	RA(C)										
	LTM										204709
RRAD-04*	LTM										203512
RRAD-33	LTM										203512
RRAD-34	LTM										203710
RRAD-44	LTM										203710
RRAD-48	LTM										203710
RRAD-95	LTM										203710
BRAC_PBC RRAD	CMI(O)										

***BRAC V**

Prior Years Funds

Total Funding up to FY04: $ 34,122K (this amount includes BRAC and Active)

FY 05 BRAC Prior Year Funds

Site Information	Expenditures	FY Total
RRAD-52, LTM	$ 40K	
RRAD-48, RD	$ 39K	
RRAD-34, RAC	$ 3,707K	
RRAD-48, RAC	$ 417K	
RRAD-95, RAC	$ 2,612K	
RRAD-48, RAC	$ 37K	
RRAD-33, LTM	$ 40K	
RRAD-58, LTM	$ 40K	
RRAD-64, LTM	$ 40K	
RRAD-48, RD	$ 3K	**$ 6,975K (BRAC)**

FY05 Active Prior Year Funds: $3,668.94K

Total Prior Year Funds: $ 44,766K (BRAC + Active)

Current Year Requirements (BRAC)

Site Information	Expenditures	FY Total
FY 06		
CMI(C) BRAC_PBC_RRAD	$1,978K	
RA RRAD-95	$1,269K	**$3,247K (BRAC)**

Total Future Requirements: $ **5,403K (BRAC IV), 6,789K (BRAC V)**

Total IR Program Cost *(from inception to completion of the IRP):* **$ 66,567K (BRAC + Active)**

Community Involvement

RRAD established an active RAB in 2 Feb 96. As of 2001, the RAB is inactive due to lack of interest.